THE TEACHER'S BOOK OF PHONETICS

BARROWS AND CORDTS

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THE TEACHER'S BOOK OF PHONETICS

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PREFACE

The need of a teacher's book of phonetics is self-evident. The book is written in response to many requests from teachers to recommend a book on phonetics which is within their grasp.

These teachers wished for a knowledge of phonetics because they realized that they had not been trained to deal with speech sounds, — to diagnose the children's speech difficulties, and to help them. The only books that could be recommended are either too technical or too limited in their scope to be really helpful to the teacher or are written by Englishmen with special reference to British English.

Especially have the teachers of phonics felt this need. Manuals on phonics do not meet it. They concern themselves only with the association of *letters* and *sounds* and do not deal with the question of how speech sounds are formed. They offer no aid to the teacher in the correction of her pupils' faulty speech.

While an effort has been made to present the phonetic facts with scientific accuracy, the chief purpose of the book has been to adapt the science to the need of the teacher and her pupils. For this reason some material which usually occupies a place of importance in books on phonetics has been briefly treated in this book or omitted entirely.

The book contains considerable repetition. In view of the many demands made upon the busy teacher, it seemed wise to repeat material rather than merely to refer to it. It was

thought that the time saved the teacher, who will find at hand all the information necessary for the treatment of a given speech problem, will far outweigh the disadvantage of frequent repetition.

In most books on phonetics the reader is invited first of all to learn the phonetic alphabet, and the writer proceeds on the assumption that this has been done. As a matter of fact, to write a book on phonetics without depending on the phonetic alphabet is not easy. It means the use of cumbersome phrases instead of simple symbols to indicate speech sounds. The relegation of the chapter on the phonetic alphabet to the end of the book is a part of the general plan of making the book first of all easily readable and practical. It should not indicate in the least a low estimation of the importance of the alphabet and its value to the teacher. In fact, the value of the phonetic alphabet cannot be overestimated.

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FOREWORD

By Professor Ernest Horn

There has long been needed a teacher's book in phonetics written not only with scrupulous care as to scholarship but also with a clear view of the practical needs of classroom teachers. The authors of "The Teacher's Book of Phonetics" brought to the preparation of this book the qualifications of scholarship as well as the necessary practical acquaintance with the problems of teaching. As a result they have produced a thoroughly adequate handbook which should have an important place in the teacher's professional library.

The book gives a clear and adequate presentation of the facts and procedures of phonetics in relation to problems of reading, of oral composition (including speech correction), and of teaching English to foreigners.

Some of the chief shortcomings of the teaching of phonics have been due either to the fact that the phonetic systems have not been accurate phonetically or to the fact that the classroom teachers have not had sufficient training in phonetics to guide them in making the most expert use of phonics as an aid in reading. Obviously the teaching of phonics aids the children in independent word recognition to the degree to which right associations are made between the printed symbols and spoken sounds. For a long time it has been realized that proper pronunciation exercises and proper exercise in hearing sounds accurately are essential in

teaching phonics. The authors of this book provide the teacher not only with the facts needed for such exercises but with actual exercises worked out under practical classroom conditions. The teacher is thus aided not only in appraising and utilizing such phonic methods as are most commonly used in the school but also in doing such supplementary and independent work in phonics as is adapted to the needs of individual children.

The book will prove no less useful as a guide to teachers of oral composition in securing better results from pronunciation drill and exercises for speech improvement. Although the need for oral composition has been strongly urged for many years, actual practice has in most cases not been satisfactory, because of the fact that teachers have had no adequate guide either for class exercises or for individual work.

One of the most important contributions which the book makes is to the problem of teaching English to foreigners. This is one of the most difficult problems confronting the elementary-school teacher in many communities. Obviously the problem of teaching English to foreign children who speak a given language is different in important ways from the problem of teaching English to foreign children who speak a different language. A knowledge of the principal sounds of any foreign language is essential in correcting the peculiar difficulties which children who speak that language have in learning to speak English. The data for teaching English sounds to children of each of the important foreign groups are given in an admirably simple and effective manner.

The authors are to be congratulated on having pointed out so clearly the difficulties which arise from the fact that

printed words in English are unphonetic. These difficulties are serious in oral reading as well as in spelling. The task of teaching spelling and reading would be far easier if these difficulties could be removed. No reform is likely to come, however, until the general public has developed a better knowledge of good speech and a recognition of the time wasted in education because our spelling is unphonetic. The place to cultivate a proper vision of sane spelling reform is in the elementary school.

It is now generally recognized that the time to develop good speech habits and to eliminate defects and peculiarities of speech is in the earliest grades of the elementary school. The elementary teacher, whether in charge of children from homes of foreign parentage or in charge of children of English-speaking parentage, will welcome this book as a guide to better efforts for developing better speech.

THE TEACHER'S BOOK OF PHONETICS

CHAPTER I

THE SCIENCE OF PHONETICS ESSENTIAL TO THE TEACHER OF PHONICS

Phonics as an aid to reading is now generally accepted. Teachers recognize its value to little children in their efforts to master the new words on the printed page. Leading men and women in the field of experimentation in reading advise the teaching of phonics.

Although we have as yet few experimental data on the teaching of phonics, we have available the best practices of the classroom. Definite systems of phonics have been developed. Manuals which outline the subject in minutest detail have been written for the teacher's use. From these sources teachers are daily receiving guidance and inspiration in their task.

There are numerous difficulties to perplex the teacher of phonics. Through methods of trial and error many of the problems have been attacked and are now well on the way to solution. What consonant and vowel sounds shall we teach? What is the best order for teaching them? How shall we teach phonics? How soon shall we begin the study? That is, how much reading ability should a child

have before he begins phonics? How much time should be given to phonics each day? In what grades shall we teach phonics? How can pupils most successfully apply their phonic knowledge and skill to reading? Shall we teach phonics by the analytic or by the synthetic method? That is, shall the child begin with a sight word as a whole and analyze it into its elemental sounds or shall he begin with the sounds and build them into the word? That is, shall he learn that the word *best* is made up of **b**, **e**, **s**, **t**, or that **b**, **e**, **s**, **t**, form *best*?

Which method of blending shall we use? Is the pronunciation of the word *best* more easily and naturally obtained from **be-st** or from **b-est**? Is the family system (the **ad**, **ed**, **od**, **og** families) a natural or an artificial aid in learning to pronounce words?

Although there are many phonic methods, they may all fall under two general classifications: those which make use of the initial blend and those which make use of the final blend. We have little experimental evidence as to the relative merits of the different systems of phonics. So much, however, is indisputable. Those who sponsor the initial blend have, to support them, the fact that it is in conformity with our habits of speech. In the utterance of words the vowel in the syllable belongs more closely to its preceding consonant than to the consonant which follows it. For example, when the word *best* is uttered, any division made by the voice comes after, not before, **e**; that is, it is more natural to say **be-st** than to say **b-est.**

Much has been done and is daily being done to perfect the teaching of phonics, but as yet little has been done to prepare the teacher to deal with sounds, which, with the letters of the alphabet, make up the material of phonics.

Phonics deals with the relation of letters to sounds. In the books and manuals on phonics the teacher is taught how to tie the sound to the letter, but not how to teach the *sounds*. Phonics is an art. Phonics furnishes the technic by which the child learns to associate letters with sounds. Phonics does not furnish the technic for the learning of the control of the speech mechanism. Through the use of phonics the child learns readily to associate, say, the sound **s** with the letter *s*; but his **s** may be lisped or otherwise defective. It is assumed, no doubt, that the teacher knows how the speech mechanism functions in producing speech sounds, and is thus able to correct any defects of speech; but many teachers confess to the most fragmentary knowledge of the formation of speech sounds, whereas many others have entirely false conceptions of the subject.

The teacher of phonics needs training in the science of speech sounds, that is, the science of phonetics. To make a distinction between the words *phonics* and *phonetics* may at first seem puzzling to the reader, for the two terms are often used interchangeably by primary teachers; but the word *phonetics* has been used for half a century to designate the science of speech sound, which grew out of the research of many scientists, — psychologists, physicists, anatomists, linguists, physicians for the nose and throat, teachers of the deaf and dumb, teachers of singing, and in fact all students whose interests lie in the field of speech sounds.

The word *phonetics* is the English form of an international name for a science of international interest. What primary teachers often call phonetics is only one of the applications of phonetics. It is a certain mechanical aid to word recognition. To prevent confusion of terms it is better to limit the word *phonetics* to the science of speech sounds, and to

use the word *phonics* only for the application of phonetics to the teaching of reading. In this book, therefore, we shall use *phonetics* as meaning the *science* of *speech sounds*.

Every teacher of phonics needs phonetic training. There are certain knowledges and skills to be obtained by the study of phonetics which every primary teacher should have.

1. The teacher of phonics should know that every speech sound is the result of certain definite adjustments of the speech organs, — the tongue, teeth, lips, soft palate, and vocal cords.

2. The teacher of phonics should know *what adjustments* are made, that is, how the speech organs function, in producing the various sounds which she teaches in phonics. Look in the mirror and note the adjustments of the lips when sounding **f** as in *fat*; then **m** as in *mat*. Compare the difference in the shape of the mouth when you sound the vowels in *father*, *tea*, and *too*.

3. Every teacher of phonics should be able to *hear* and to *think* sounds independently of the *letters* which represent them. It is almost impossible for a teacher to avoid confusion if she has not learned to think of speech *sounds* as the things we *hear* and of *letters* as the things we *see*; her ear must hear and her mind must judge a sound in terms of the adjustments which produce it.

4. The teacher of phonics should have a trained ear to *hear* the sounds as they are *produced*. With such knowledge and skill the teacher will be able to form the speech sounds correctly and to give her pupils a correct model to imitate. Such ability is rare among primary teachers. Many of them do not even realize their lack of it. As a consequence teachers are continually distorting the sounds which they give children to imitate. For example, how many teachers of phonics sound **r** and **l** correctly? These consonants are very difficult to isolate; and unless the teacher knows the art, she may sound the syllable **er** for **r** and the syllable **ul** for **l**. A comparison of the sounds of the two **r**'s in *river* and the two **l**'s in *level* will show that the first **r** in *river* is not **er** and the first **l** in *level* is not **ul**.

To the child whose speech habits are already correctly formed and firmly fixed, the incorrect presentation of a sound may work no hardship; but if the child learns to form a sound for the first time by imitation of a deformed model, the result is unfortunate.

5. The teacher of phonics should know how to deal intelligently with children who have faulty speech habits. Many children enter school with remnants of baby talk, foreign accent, and other types of faulty speech.

The teacher who combines with an intelligent understanding of the child a thorough knowledge of his speech difficulties will be able to help him easily without making him uncomfortable or in any way self-conscious.

Defective speech is a handicap to the child in his mastery of phonics. Children must learn to utter sounds correctly before they are ready to associate the sound with its symbol. This association is threefold: the child *sees* the letter, *hears* the sound, and *utters* the sound. Faulty utterance of the sound causes confusion in the child's mind between the sound and its symbol. Moreover, it fixes incorrect habits of hearing as well as incorrect habits of speaking.

In many ways, therefore, the teacher with thorough phonetic training is able to come to the children's aid. Her ears are alert to the defective sounds that she hears the children produce; she recognizes their difficulties; and she understands the nature of their difficulties and knows the technic for correcting them. Phonetic training makes the teacher master over all the difficulties that have to do with sound production. With phonetic knowledge and skill she will be able to recognize a sound no matter how mysteriously it is disguised in the spelling. She will know precisely how every speech sound is produced by the organs of speech. She will be able to give her pupils a correct model to imitate, and will know whether they are repro-

ducing the sound properly. She will be able to detect faulty habits of speech, diagnose the pupils' difficulties, and remove them before they become fixed for life.

Learning to read would be a simple matter if every *letter* always stood for the same definite adjustment of the speech organs, as, for instance, the letter *m* almost always does; the movements which produce the sound would automatically take place at sight of the letter; but in the case of most of our alphabetic letters an act of judgment must precede the utterance of the word. Knowledge of the value of *g* in *get* does not help us in *gem*; familiarity with the sound **o** in *stove* only confuses us in *love* and *move*.

As another example of confusion let us take the words *six*, *shoes*, and *treasure*. Our eyes tell us that there is one *s* in *six*, one in *treasure*, and two in *shoes*. What do our ears tell us? If we consider the initial sound in *sit* as representing the sound of **s**, there are actually only two **s** sounds in these words, and they are both in the word *six*. One of them is obvious (initial **s**); the other is hidden in the *x* (**ks**). The *sound* **s** does not occur at all in *shoes*, nor is there an **s** *sound* in *treasure*. In *shoes* the initial *s* is a part of the digraph representing the so-called **sh** sound; final *s* in *shoes* represents the **z** sound. In *treasure* *s* represents still another sound, sometimes written *zh*.

Here, then, is the situation. The *letter* *s* occurs four times in the three words. Only once does it stand for the *sound* **s**. The *sound* **s** occurs twice. Only once is it represented by the *letter* *s*; the other time it is the final sound of the two consonants represented by *x* (**ks**).

A certain primary teacher complained that one of her pupils could not say *six* distinctly in telling his age. She inquired how to teach him to say **x** correctly. She was not an unintelligent,

untrained teacher. She was a graduate of a normal school and a successful teacher of many primary subjects. Her instructor in the normal school had only this reply to give her, "*X* occurs so seldom in the child's reading that it is not worth while to teach it."

On the other hand, while we have in *six* the one letter, *x*, representing two sounds, (**ks**), we have in *shoes* two letters, *sh*, representing one sound. If you wish to demonstrate the fact that *x* stands for *two* sounds, — that is to say, for two sets of adjustments, one for **k**, one for **s**, — and that *sh* stands for one set of adjustments, not one for **s** and one for **h**, sound before the mirror the two words *ax* and *ash*.

When you utter the *x* in *ax*, the tongue makes two movements, first backward for **k**, then forward for **s**; but when you produce the consonant in *ash*, the tongue makes but one movement. There are few cases like *x*, in which one letter stands for two sounds, but many like *sh*, in which two letters stand for one sound. *Sh*, *th*, *ng*, *ph*, *wh*, are all digraphs, — two letters standing for one sound, — just as *ck* in *sick* stands for **k**, and *gh* in *cough* stands for **f**.

The recognition of the sounds of vowels offers even more difficulty than does that of consonants. We have three times as many vowel sounds as we have vowel letters, so that one letter or digraph has to do service for more than one sound.

With a visual image of the words *I* and *eye* it is difficult to realize that both spellings stand for the same diphthong. With a visual image of *hear* and *heard* it is difficult to realize that the vowels *ea* do not stand for the same sound.

The combination of letters *ea* in the above words is a digraph standing for two different elementary sounds. The combination *ou* is sometimes a digraph, standing for an

elementary sound, as in *ought*; at other times these letters represent a diphthong, as in *out*.

It is only when two letters stand for a combination of two elementary sounds that they may be called diphthongs. You can learn to distinguish between a diphthong and an elementary sound by observing before a mirror whether the shape of the mouth changes during the utterance of the vowel. If the shape remains unchanged, the sound is an elementary vowel. If the shape changes, two adjustments have been made and the combination is a diphthong.

We have seen that we have a double handicap in our interpretation of speech sounds. Our spelling is unphonetic, and we are decidedly eye-minded. It has been said without exaggeration that we "hear words with our eyes." This might be an aid instead of a detriment in dealing with speech sounds if the letters of the alphabet adequately represented the speech sounds.

It is fundamentally important in all of our teaching of phonics that we distinguish between what we *see* and what we *hear*. The *sound* is what we *hear*, and the *letter* is what we *see*. Phonetic training helps us to recognize *sounds* regardless of the way in which they are written. Phonetics brings to the teacher of phonics the knowledges, skills, and abilities which the best methods of phonics do not provide.

CHAPTER II

FIRST AID TO CORRECT UTTERANCE

One evening a primary teacher reported five pupils to her superintendent as being unable to learn to read intelligibly. None of the children were mentally deficient; none of them had any organic defects or serious speech disorders; none of them came from foreign-speaking homes; yet their speech was so indistinct and imperfect that progress in reading was practically impossible.

It happened that on this same day the school nurse had made her regular visit. She had examined the children and advised treatment for various physical disorders.

On the wall of the schoolroom hung a chart for testing the eyes. Those who were found to have defective sight were promptly treated. In so far as was possible their vision had already been safeguarded by proper lighting.

Several of the little ones had diseased teeth. They were referred to the dentist.

Others were developing poor postures. Care was taken to adjust the seat to the pupil, and exercises for straightening the back and strengthening the muscles were recommended.

In the teacher's closet was a kit labeled, "First Aid to the Injured." The teacher had been instructed as to its use.

Here is a splendid example of what modern science is doing for the comfort and physical well-being of the boys and girls in the public schools. Much has been accomplished, greatly to our credit and to the child's good fortune.

But in the case of these children who could not learn to read because they could not speak correctly no forethought had been taken. No one was trained to meet their needs. The teacher, the nurse, and the parents all lacked knowledge of the technic for correcting their difficulties.

Obviously few teachers should be expected to have skill to cure faults of speech which are due to abnormalities, such as tongue-tie, cleft palate, hare lip, or defective hearing. Such cases belong to the surgeon and the speech expert. But the facts show that the majority of speech difficulties are not due to physical defects. They are the direct result of ignorance, indifference, careless habits, and continued baby talk.

The difficulties which these children had with their speech were not due to any physical disability; but because their teacher lacked the necessary skill to correct their faults they were going on day after day developing their childish defects into habits fixed perhaps for life. Many cases of faulty speech, however, are amenable to remedial measures which the teacher herself may administer.

Helping the child to normal, distinct speech is a service decidedly worth while. Faulty speech does more than retard the child's progress in reading. His speech is his chief means of expression; surely it is as vital to his well-being as his posture, his personal appearance, or the condition of his teeth. Improvement of a child's speech may mean to him the removal of a handicap which might in the end develop an inferiority complex, making him feel unworthy in the society of his equals. A defect in speech often leads to a disinclination to speak, which in turn inhibits self-expression.

Many adults show remnants of baby talk in their daily

speech. It is not uncommon to meet young persons of splendid physique who impress one as strong and vigorous, yet who still lisp like five-year-old children. Not long ago a university student was both surprised and embarrassed to find that she was saying *wose* for *rose* and *twain* for *train*. No one had ever told her that she was substituting **w** for **r**, a normal fault of a small child. Another student on the same campus, with habitually indistinct speech, was heard to say regretfully: "Why didn't my high-school teacher tell me I didn't make my sounds correctly? I shouldn't have been allowed to go through school with such wrong habits of speech."

On every college campus in America are men and women who have carried speech habits of their babyhood into adult life. Many are unconscious of their faulty speech; others deplore it. Occasionally one finds students who honestly believe that they are physically unable to make certain speech sounds correctly, simply because the habits have become so firmly fixed.

Teachers have long felt a grave responsibility for the pupil's use of English *forms*. They are embarrassed if they hear him say, "The pencil *don't* write." But let him say, "The pen**th**il doe**th**n't write" and the error passes unnoticed, with perhaps a passing "He lisps his **s**" or "How cunning!"

If we would correct the child's speech difficulties, we must know certain things:

1. We must know how the sounds of the English language are formed and how our own speech organs function in forming these sounds.

At this point it is well for us to remember that the speech sounds of no two people are exactly alike. Just as we differ from

each other in color of eyes and hair, in weight, and in stature, so do we differ in the size and shape of the speech organs. Nevertheless there is a more or less generally accepted standard for English sounds, and an accepted method of producing them. The first thing, then, for us to discover is how we make these sounds with our own speech organs, — the tongue, teeth, lips, soft palate, and vocal cords. Here a hand mirror is indispensable, for it is helpful to be able to *see* the movements of the speech organs.

2. We must know how to diagnose the child's difficulties. The diagnosis must reveal two things:

a. The nature of the difficulty. Does he substitute one sound for another? For example, does he say *tat* for *cat*? Does he make his sounds inaccurately? For instance, does he lisp his **s**? Or does he omit the sound entirely? Does he say *ellow* for *yellow*?

b. The cause of the difficulty. Is it due to some organic defect or to carelessness, slovenly habits, foreign accent, continued baby talk?

If an organic defect is suspected, the case should be referred to the medical expert; after the physical defect has been corrected, the remedial drills may be given.

Should the incorrect speech be due to other conditions, we must discover whether the child ever makes the sound in question correctly. If he does, we know that he can make the sound and has already carried it over in some words but not in others. Thus, we find children who sound **f** for **th** in words like *teeth* and *mouth*, but who say ***th**umb* and ***th**ank* correctly.

The means by which we may study the child's speech habits vary with his age and spontaneity. Uusually we have ample opportunity to observe the child's speech in his ordinary conversation in the schoolroom and on the playground, but we may arrive at his difficulties more directly by causing him to say words containing the sounds we wish to hear.

With little children this is very pleasantly done by means of attractive pictures, or, better still, by means of little toys. At

the sight of a toy train a little child cried out, "The twain on the wailwoad twack!" This gave the teacher her clue to the child's use of **w** for **r**.[1]

An appropriate picture may call forth all the sounds that we wish to hear the child utter. From a landscape we may get **tr** in *tree*, **sk** in *blue sky*, **w** in *water*, **gr** in *grass*, **st** in *stone*.

3. We must know how to help the child to overcome his difficulties.

a. Children are creatures of imitation. The most natural way for them to learn correct formation of sounds is by imitating the sounds. The first step, then, is to lead the child to imitate the sound as the teacher utters it clearly and distinctly. The importance of a good model cannot be overestimated.

b. The child must recognize the sound as he hears it. If he is unable to imitate the sound, we train him to listen for it. For instance, in the case of an **s** lisp, we repeat many times (very slowly) a familiar rime or story containing **s**. For example, "Simple Simon met a pieman." The child claps softly, nods, or raises a finger every time he recognizes **s**. The ingenious teacher will make use of classroom situations for this purpose.

c. The child tries again to imitate the sound. If the imitation is unsuccessful, we may show him how to place the organs of speech so as to utter the sound. Often it is sufficient to let him *see* how *you* make the sound.

This method of correction becomes increasingly effective as the child grows older. Little children find it difficult to place their organs of speech according to detailed directions. Except in the most obstinate cases, children under seven years of age are most successfully helped through imitation.

If mechanical aids are resorted to, let the experience be interesting and even fascinating. It is perfectly possible to bring a child to conscious knowledge of how he produces a sound without making him uncomfortable or self-conscious about his speech. *Do not make the child self-conscious.*

[1] **w** expresses approximately the sound the child uses instead of **r**.

After the child has learned how to utter the sound correctly by pure imitation, by conscious placement of the speech organs, or by both means, give him exercises for practice in the correct form of the sound until it becomes habit.

Such exercises need never be dull or uninteresting. They need not be presented as speech drills. The best results are obtained by using the sounds in happy play situations, such as games, babble rimes, "listening and doing" exercises, etc.

In the following pages suggestions are given to the teacher for the correction of certain speech errors that are most common to children. The sounds that are studied are the consonants **s**, **z**; **th** in *thin* and in *this*; **k**, **g**; **ng**; **r**; **l**; **wh**, **w**; **ch**, **j**.

For a complete analysis of the formation of consonant sounds see Chapter IV.

s as in *sit* or *ice*; **z** as in *is* and *buzz*

The Teacher Studies Herself

How s and z are formed

STEP 1. *Take the mirror.* Sound **s**.[1] Since **s** is made with the teeth almost closed, it is difficult to see what the tongue does in forming the sound. This is what happens: We bring the sides of the tongue against the upper side teeth, forming a narrow groove in the center of the tongue. Through this narrow groove a fine stream of air is directed against the upper front teeth, whence it escapes between the upper and the lower incisors with the familiar hissing sound. The tongue tip may be slightly raised behind the upper front teeth, or lowered, touching the inner surface of the lower

[1] See pages 87–88.

front teeth. The former tongue position is the usual one for Americans. The direction of the tongue tip is, after all, of secondary importance. The secret of a good **s** lies (1) in the forming of the narrow central groove in the tongue over which the stream of air is conducted, and (2) in the position of the lower teeth, which must intercept the air stream at the right point. Strong, controlled breathing is also essential. So much resistance is offered to the air as it passes over the tongue between the teeth that it is set into rapid vibration. It is estimated that the rate of vibration for **s** may exceed six thousand times a second.

Sound **z**. Notice that the tongue position for **z** is approximately the same as for **s**. While sounding **z** place your fingers on the larynx (or "Adam's apple") and feel the vibration of the vocal cords.

Sound **s** again, this time with the fingers on the larynx. Now sound **s** and **z** alternately. The only apparent difference between the two sounds is that the vocal cords vibrate in sounding **z** but do not vibrate in sounding **s**. The sound **z** is a voiced sound; **s** may be considered its voiceless (or breathed) twin.

In which of these words does the letter *s* stand for the sound **s**? In which does it stand for **z**?

us	opens	rinse
his	expense	busy
this	hops	purse
eyes	runs	is

Step 2. Not only does defective **s** occur very frequently among children, but it is often very difficult to correct. There are various kinds of defective **s**,

arising from different causes. Since **s** and **z** have approximately the same articulation, what is said of **s** may be considered as applying also to **z**.

If the tongue is too far forward or the central groove in the tongue is too wide, the sound produced has a dull, **th**-like quality. Likewise, a "lisp" may result when one's teeth are so irregular that they do not close properly, or a defective **s** may be caused by a protruding or a receding lower jaw.

In a well-formed **s** the air escapes through a central groove in the tongue; but if the side teeth are very irregular, so that large crevices are formed, the breath stream may be deflected through these openings on one or both sides, producing what is called a lateral **s**. This peculiarly unpleasant type of **s** lacks the sharpness of a normal **s** and has something of the quality of an **l**. It is, in fact, sometimes called a voiceless **l**.

It not infrequently occurs that initial **s** is satisfactorily formed, while final **s** is defective. This is often the case when the speaker habitually diminishes the energy of articulation at the end of a word or phrase. Sometimes the speaker relaxes the muscles of the tongue and velum during the production of final **s**, and part of the breath stream is turned upward and escapes through the nose.

Children also frequently substitute voiceless **th** (*thin*) for **s**, and voiced **th** (*this*) for **z**.

Sound **s**, then **th** (*thin*); or **z**, then **th** (*this*). We have already noticed that for **s**, **z**, the tongue is hidden behind the teeth. For **th** the tongue tip is slightly visible between the teeth, and the air issues through a narrow slit between the tongue tip and the upper teeth.

Another, less common, substitution for **s**, **z**, is **t**, **d**.

With the back of your hand before your lips sound **s**, then **t**. You will feel a sharp puff of breath in the utterance of **t** which is lacking for **s**. For **t** you blocked the mouth passage with the front of the tongue against the gum ridge, and then, suddenly releasing the blockage, you expelled the air with an explosion.

In two important points, therefore, **t** differs from **s**, — in the tongue position and in the way in which the breath is expelled.

Since **z** is a voiced **s**, and **d** a voiced **t**, what has been said of **s** and **t** applies also to **z** and **d**.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming **s** *and* **z**

STEP 1. Listen closely to the child's **s** and **z** sounds:

a. As he talks spontaneously in the schoolroom and on the playground.

b. As he says the words containing **s** and **z** sounds which you have called forth by the use of such words as *goose*, ***s**pool*, *pencil*, ***s**tar*, *sister*, for **s**; *eyes*, *nose*, *boy**s***, *girl**s***, for **z**.

STEP 2. Take note of the child's particular error. Does he omit **s** and **z** entirely or does he lisp? Does he substitute **t** and **d** for **s** and **z** respectively?

Note whether or not the child's teeth are in normal condition. **S** and **z** are more dependent upon the condition of the teeth than are any other sounds.

STEP 3. Observe whether the child is consistent in his treatment of **s**. If he can make the sound correctly in some words, he needs only to practice those words in which his **s** is incorrectly made.

Remember that when children sound **s** for **z** the error is not in the tongue position. They are merely substituting a voiceless sound, **s**, for its voiced equivalent, **z**.

The Teacher Helps the Child

First aid for correcting ***s*** *and* ***z***

STEP 1. Form **s** clearly and distinctly for the child. Let him imitate the "teakettle sound," **s-s**, **s-s**. Try again and again.

STEP 2. Train his ear to listen for **s** as you repeat, with pleasing and distinct utterance, rimes containing **s**.

As he hears the sound of **s** have him clap, bow, nod, raise a finger, or show by any other sign that he recognizes the sound. Closing his eyes while he listens may help him.

Rimes for ***s*** [1]

1

Simple Simon met a Pieman,
Going to the fair.
Said Simple Simon to the Pieman,
"Let me taste your ware."
Said the Pieman to Simple Simon,
"Show me first your penny."
Said Simple Simon to the Pieman,
"Indeed! I haven't any!"

2

Sing a song of sixpence,
A pocket full of rye;
Four and twenty blackbirds
Baked in a pie;

[1] Note that the letter **s** used in *birds*, *was*, and *wasn't* stands for the sound **z**.

When the pie was opened,
The birds began to sing,
Wasn't that a dainty dish
To set before the king?"

STEP 3. The child tries again to imitate the sound. Be sure to give him a clear, distinct model. If his efforts at imitation fail, show him how the organs of speech are adjusted to form the sound.

STEP 4. Show the child who sounds **th** (*thin*) for **s** how you hide away your tongue in forming **s**. Give him the mirror. Let him see that he shows his tongue between his teeth when he tries to sound **s**. Tell him to pull his tongue back and make the "teakettle sound" **s-s-s** against the lower front teeth. Keep the play spirit!

For the child who says **t** for **s** use the following device: Hold a light strip of paper before your lips as you sound **s**. Show the child that the paper is not disturbed. Now sound **t**, holding a piece of paper before your lips. Show him that this time the paper flutters. Hold the paper before his lips as he tries to sound his defective **s**. He will see that the paper flutters as for **t**. Explain why he gets the explosion (see page 17).

A defective **s** due to the loss of teeth may correct itself when the new teeth have come in. A defective **s** due to irregular teeth (especially lateral **s**) is often difficult to correct.

There are different devices that may be used to direct the breath stream through the center of the tongue. An artificial central groove may be formed in the tongue by means of a toothpick, or the toothpick may be inserted between the tongue tip and the gums

when the tongue is in position for **t**. Unless the case yields readily after careful ear training and demonstration, the untrained teacher may find it wise to refer it to an expert.

Exercises for forming correct habits after the child can make the sound

sa, se, so,[1]	as, es, os,
sa, se, so,	as, es, os,
sa, se, si, so, su.	as, es, is, os, us.
za, ze, zo,	az, ez, oz,
za, ze, zo,	az, ez, oz,
za, ze, zi, zo, zu.	az, ez, iz, oz, uz.
asy, esy, isy,	azy, ezy, izy,
asy, esy, isy,	azy, ezy, izy,
asy, esy, isy, osy, usy.	azy, ezy, izy, ozy, uzy.

After the above syllables become easy, let the children repeat slowly and rhythmically:

sta, ste, sti, sto, stoo,
spa, spe, spi, spo, spoo,
sna, sne, sni, sno, snoo,
sla, sle, sli, slo, sloo,
ska, ske, ski, sko, skoo.
scra, scre, scri, scro, scroo,
spra, spre, spri, spro, sproo,
ast, est, ist, ost, oost,
ask, esk, isk, osk, oosk,
asp, esp, isp, osp, oosp,
ats, ets, its, ots, oots,
aks, eks, iks, oks, ooks,
aps, eps, ips, ops, oops.

[1] In this exercise use the alphabetic name of the vowel.

s and z words for practice

Be sure that every sound is distinctly heard.

Initial s	*Medial s*	*Final s*	*Blends*	*Blends*	*Blends*
sit	listen	ice	start	lisp	cats
soon	whistle	this	stove	wasp	eats
sound	wrestle	class	stomach	first	hits
soap	missing	race	spring	wrist	raps
six	lesson	mice	snail	ask	shakes
city	facing	house	swim	past	laughs

Initial z	*Medial z*	*Final z*	*Blends*
zero	scissors	boys	heads
zebra	poison	shoes	lambs
zone	reason	goes	digs
zinc	raisin	nose	cabs
zoo	daisy	lies	rains
	easy	toes	halves

Rimes containing s and z

1

The Teakettle sits on the stove, s-s,
And sings a gay little song, s-s,
S-s-s-s, s-s-s-s, s-, s-, s-, s.

2

I saw a ship a-sailing,
A-sailing on the sea;
Her masts were made of shining gold,
Her decks of ivory;
Her sails of silk are soft as milk,
And silvern shrouds has she.

3

See-saw, Margery Daw,
Jack shall have a new master;
He shall have but a penny a day,
Because he can't work any faster.

"Listening and doing" exercise

One child acts as a leader. He gives the direction to any member of the class, who listens and does as directed.

Everyone who needs practice should be given a chance to lead. Children ought to be able by this time to make **s** and **z** clearly and distinctly.

Sit still.
Stand still.
Stand straight and still.
See the sky.
See the stars.
Strike your nose.
Strike your ears.
Sow seeds.
See the sunset.

th in *thin*; th in *this*

The Teacher Studies Herself

How the th sounds in thin *and* this *are formed*

STEP 1. *Take the mirror.* Sound **th**[1] as in ***thin***. Observe how you produce the sound. The sides of the tongue are placed against the inner surface of the upper teeth. The tip of the tongue is slightly visible between the teeth. The air issues from a narrow slit between the tongue tip and the upper front teeth. Note how a slip of paper is blown away from the lips when you say ***thin***.

Sound **th** as in ***thin*** once more, this time placing the fingers against the larynx. You will feel no vibration

[1] See page 86.

of the vocal cords. In words like *thin*, *thumb*, *tooth*, *bath*, **th** is voiceless.

Now sound **th** as in *this*, placing the fingers on the larynx. This time the vocal cords vibrate. In words like *this*, *that*, *them*, *father*, *bathe*, **th** is voiced.

Children frequently substitute **f**, **s**, or **t** for voiceless **th**; and **v**, **z**, or **d** for voiced **th**. Thus, they may say *toof*, *toos*, or *toot* for *tooth*; *vis*, *zis*, or *dis* for *this*.

Step 2. Sound **th** as in *thin*, then **f**, and compare their formation. For **th** the breath issues from a narrow slit between the tongue tip and the upper teeth; for **f**, between the upper teeth and the lower lip. There is a like difference between the formation of **th** as in *this* and **v**, the voiced twins of voiceless **th** and **f** respectively.

Sound **th** and **s**, and compare the formation of the sounds. For **th** the tongue tip is visible between the teeth, and the air issues from a narrow slit between the tip of the tongue and the upper front teeth. For **s** the tongue is hidden behind the closed teeth, and the breath, flowing through the narrow groove in the center of the tongue, escapes through the crevices between the upper and lower front teeth.

Sound **th** and **t** and compare the formation of the sounds. Observe that for **t** you place the front edge of the tongue against the gums back of the teeth, completely blocking the mouth. Then the air explodes as the tongue is suddenly released from the gums. In forming **th** the tongue tip is placed farther forward than for **t**. It is, in fact, slightly visible between the upper and lower teeth. The air issues between the tongue tip and the upper front teeth in a continuous stream, not with a sudden puff as for **t**. You can demonstrate this

by holding a slip of paper before the lips when sounding first **th**, then **t**. There is the same difference between the formation of voiced **th** and **d** that you have observed between voiceless **th** and **t**.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming ***th***

STEP 1. Observe the child's **th** sounds either in his spontaneous conversation or through directed speech by means of toys or pictures.

STEP 2. Note the nature of the child's error. Does he substitute **f**, **v**; **s**, **z**; or **t**, **d**? That is, does he say *mouf*, *mouse*, or *mout* for *mouth*; *vis*, *zis*, or *dis* for *this*?

Is he consistent in his errors or does he use the correct form some times and one or the other of the incorrect forms at other times? If he is able to form the sound correctly in some words, he needs only systematic practice on those words in which he does not use the correct form. If he is not able to form the sound at all, he will need to be shown more carefully how it is formed.

The Teacher Helps the Child

First aid for correcting ***th***

STEP 1. Form **th** for the child to imitate. Do this again and again.

STEP 2. Train his ear to listen for **th** as you recite rimes containing the sound. He may clap or show by some sign that he recognizes the sound.

Thirty **th**ousand **th**oughtful boys
Thought they'd[1] make a **th**undering noise;
So, with[1] **th**irty **th**ousand **th**umbs,
They[1] **th**umped on **th**irty **th**ousand drums.

[1] In the words *they'd*, *with*, and *they* **th** is voiced.

Sound **th** again for the child to imitate. Sound it close to his ear; then repeat it, telling him to watch your mouth as you form the sound. Remember that imitation of a good model furnishes the child with the most natural means for getting any sound correctly. If he succeeds, he may use the sound in syllable drills, combining it with the vowels **a**, **e**, **i**, **o**, **u**. If he fails to imitate the sound, show him the correct tongue position for **th**.

STEP 3. Give the child the mirror. If he substitutes **f** or **v** for **th**, hold down the lower lip so that it cannot reach the upper teeth; ask him to watch you form **th** and to place his tongue like yours, with the tip just visible between the teeth. This need not embarrass him; it should only interest him.

If he substitutes **s** or **z**, show him how your tongue hides behind the teeth for **s** and **z** but peeps out between the teeth for **th**.

If he substitutes **t** or **d**, show him that for **th** the tongue must not be hidden away and the air must not escape with a quick puff of breath as for **t** or **d**. Hold the back of the hand, or a little flag made of thin paper, to the lips, to let him feel the explosion.

If, with correct tongue position, he still explodes the breath, insert a toothpick between the tongue tip and the upper teeth, to form the slit through which the air must escape.

As soon as the child has learned the correct tongue position for either the voiced or the voiceless form of **th**, he has learned it for the other. He will then need only practice in using the sound in words and sentences.

STEP 4

Drills for fixing the habit of forming th correctly

1. Let the children repeat the following exercises, using both voiced and voiceless forms of **th**.

tha, the, thi, tho, thu.[1]
ath, eth, ith, oth, uth.

2. Let the children march as they imitate the drum-beat:

Thump! **th**ump! **th**ump, **th**ump, **th**ump!

3. Let the children raise and lower thumbs as they recite

Thumbs up, **th**umbs down,
Thumbs up, **th**umbs down,
Thumbs up, **th**umbs down,
Thumbs are down.

STEP 5

th words for practice

Voiceless th

Initial	*Medial*	*Final*	*Blends*
thumb	method	tooth	throw
thimble	nothing	teeth	three
thin	something	mouth	thread
thick	plaything	south	earth
think	author	Ruth	length

Voiced th (this)

Initial	*Medial*	*Final*	*Blends*
then	father	bathe	breathes
them	weather	breathe	mouths
there	either	clothe	wreaths
that	other		paths
those	feather		

[1] In these exercises use the alphabetic name of the vowel.

Games and rimes using **th** (*as in* **th**in *and* **th**is)

1

Thimble, **th**imble, who has the **th**imble?[1]

2

Simon says, "**Th**umbs up!"

3

The nor**th** wind do**th** blow,
And we shall have snow,
And what will poor robin do **th**en, poor **th**ing?

4

Did you ever see a lassie, a lassie, a lassie,
Did you ever see a lassie do **th**is way and **th**at?
Do **th**is way and **th**at way?
Do **th**is way and **th**at way?
Did you ever see a lassie do **th**is way and **th**at?

"Listening and doing" exercise

Children take turns in directing other members of the class.

Thumbs up.
Thumbs down.
Put your thimble on your thumb.
Breathe through your mouth.
Brush your teeth with the toothbrush.
Throw a ball to Ruth.

k as in *kitty* and *cake*; **g** as in *go* and *big*

The Teacher Studies Herself

How ***k*** *and* ***g*** *are formed*

STEP 1. *Take the mirror.* Sound **k**[2] with the mouth open wide enough so that you can see the position of

[1] The thimble game is an adaptation of "Button, button, who has the button?"

[2] See page 81.

the tongue. You will notice that at the beginning of the sound the back of the tongue is arched so as to touch the soft palate, completely blocking the air so that it cannot escape. Then the arched tongue is suddenly lowered, causing the air to escape with an explosive sound. The vocal cords do not vibrate. Sound **k** repeatedly, to observe better the adjustments as they take place.

Sound **g** as in *go*. Notice that the tongue position is the same as for **k**. The vocal cords vibrate. We may call **g** the voiced twin of **k**.

Children frequently substitute **t** for **k** and **d** for **g**. Thus they say, "Tan I do?" for "Can I go?" They are consistent, since **t** and **d** too are twin sounds.

Step 2. Sound **t**, **d**, with the use of the mirror. Notice that in forming **t**, **d**, the air is also blocked behind the tongue as in forming **k**, **g**. But this time it is the front of the tongue that does the blocking, not the back of the tongue, as for **k**, **g**; **t**, **d**, like **k**, **g**, are explosive sounds. Thus, correcting the child's substitution of **t**, **d**, for **k**, **g**, respectively, is merely a question of correcting his tongue position.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming ***k, g***

Step 1. Observe the child's sounds as in *kitty*, *candy*, *pig*, *go*, *goose*, *gone*, in his everyday speech. If he needs to be stimulated to speak, use appropriate toys and pictures, as suggested before. On one occasion a little boy, upon discovering a toy goose, a turkey, and a watch, suddenly cried out, "Oh, doosey says, *Twat-twat*; turtey says, *Dobble-dobble*; tot says, *Tit, tot.*"

Notice that he consistently substituted **t** for **k** and **d** for **g**.

STEP 2. Determine whether the child is consistent in substituting **t**, **d**, for **k**, **g**. If he is able to form **k**, **g**, correctly in some words, give him systematic practice in those words in which he does not habitually use the correct tongue position.

The Teacher Helps the Child

*First aid for correcting **k**, **g***

STEP 1. Sound **k** several times for the child to imitate. He may imitate the crow's song, ***Caw, caw, caw!***

STEP 2. Train his ear by having him listen for **k** in nursery rimes. Let him show by some sign that he recognizes the sound (see page 18, Step 2).

Dick**o**ry, dick**o**ry, doc**k**,
The mouse ran up the cloc**k**;
The cloc**k** struc**k** one,
And down he run,
Dick**o**ry, dick**o**ry, doc**k**.

To mar**k**et, to mar**k**et,
To buy a fat pi**g**,
Home a**g**ain, home a**g**ain,
Ri**g**-a-di**g**, ji**g**.

STEP 3. Have the child try again to imitate the sound, — **k-k-k**, **g-g-g**; also to use **k** and **g** in syllables, — ***ka***, ***ke***, ***ki***, ***ga***, ***ge***, ***gi***.

STEP 4. If necessary, hold the tip of his tongue down with a tongue depressor, making it impossible for him to form **t** while he tries to imitate **k**.

If he does not succeed in arching the back of his tongue, tell him to raise that part of his tongue which you touch, to the spot on the palate which you touch next. With the tongue depressor first touch the back of the tongue, then the back of the hard palate. To touch the soft palate may cause the child discomfort.

With such help let him try again and again to place the tongue in correct position for forming **k**. Then, if necessary to show the difference between **k** and **g**, let him feel the vibrations of the vocal cords while sounding **g**. This method of demonstrating the sound is of course not suitable for a very young child. In using the method with other children you will of course take care to make the exercise of absorbing interest and not embarrassing.

STEP 5

Exercises for forming correct tongue habits in sounding ***k, g***

1. Make a noise like a crow: ***Caw, caw, caw!***

Make a noise like a duck: ***Quack, quack, quack!***

Make a noise like a rooster in early morning: ***Cock-a-doodle-doo!***

Make a noise like a hen calling to her chickens: ***Cluck, cluck, cluck!***

Make a noise like a turkey: ***Gobble, gobble, gobble!***

2. What does the clock say? ***Tick-tock, tick-tock, tick-tock.***

3. Let the cuckoo clock strike the hour: ***Cuckoo, cuckoo, cuckoo,*** etc.

4. Play you are an automobile: ***Chug, chug, chug!***

5. Children play they are barnyard fowls. The duck says, ***Quack, quack!*** The turkey says, ***Gobble, gobble!*** The rooster says, ***Cock-a-doodle-doo!*** The hen says, ***Cluck, cluck!***

STEP 6

k and g words for practice

Initial	*Medial*	*Final*	*Blends*	*Blends*
kitty	cuckoo	talk	clown	work
kite	ticket	duck	crown	ink
cat	market	kick	cranberry	sink
candy	cooky	stick	clean	bank
cake	pocket	chick	class	silk
quick	pickle	sick	clap	milk

Initial	*Medial*	*Final*	*Blends*
go	leggings	pig	grass
gun	beggar	wig	ground
goose	bigger	jig	grumble
Goldilocks	giggle	fig	glad
girl	wiggle	leg	glue
get	gurgle	bug	glow

Rime

There was a crooked man who walked a crooked mile;
He found a crooked sixpence against a crooked stile;
He bought a crooked cat,
Who caught a crooked mouse,
And they all lived together
In a little crooked house.

STEP 7

"Listening and doing" exercise

Children take turns in directing other members of the class. Insist on distinct utterance always.

Drink milk.	Walk to the desk.
Drink cocoa.	Walk back again.
Milk the cow.	Get the big glass.
Walk quietly.	Cut the green grass.
Walk quickly.	Go into the garden.

ng as in *sing*

The Teacher Studies Herself

How ***ng*** *is formed*

STEP 1. *Take the mirror.* Sound **ng** [1] as in *sing*. You will notice that **ng** is formed with the same tongue position as for **k**, **g**. Close the nostrils and the sound ceases. For **ng** the air is not exploded through the mouth by a sudden releasing of the tongue pressure, as in **k**, **g**, but comes out gently through the nose. Both children and adults frequently substitute **n** for **ng**. Thus, they say *doin* for *doing* and *goin* for *going*. This error is not always easy to detect, since **n** is also a voiced nasal consonant.

STEP 2. Using the mirror, sound **n**. In forming **n** the position is approximately the same as for **t**; that is, the front of the tongue is directed against the gums of the upper teeth, while for **ng** the back of the tongue should be raised against the soft palate. Consequently the correction for **ng** is simply the proper placement of the tongue. You will see that **ng** is a single sound,—not a blend of **n** + **g**, as the spelling would indicate.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming ***ng***

STEP 1. Observe the child's sounds in *doing*, *going*, etc. Does he say *doin*, *goin*, instead of *doing*, *going*, etc.?

STEP 2. Determine whether the pupil is consistent in substituting **n** for **ng**. If he is able to sound **ng** in some words, the sound offers no difficulty in itself. He has simply acquired the habit of using the wrong sound

[1] See page 82.

in certain words. When he says *doin* or *goin*, he is not "leaving off his **g**"; he is blocking the mouth in the wrong place with the wrong part of the tongue.

If the child has not yet learned to use the correct tongue position, some drills may be necessary.

The Teacher Helps the Child

First aid for correcting **ng**

STEP 1. Sound **ng** several times for the child to imitate. He may imitate the sound of the bell: *Ding, dong.*

STEP 2. Have him train his ear by listening for **ng** in nursery rimes. He raises a finger or makes some sign when he recognizes the sound.

Di**ng**, don**g**, bell,
Puss is in the well.

Sin**g** a son**g** of sixpence,
A pocket full of rye.
Four and twenty blackbirds,
Baked in a pie.
When the pie was opened,
The birds began to sin**g**;
Wasn't that a dainty dish
To set before the kin**g**?

STEP 3. Let the child try again to imitate the sound in the words *ding, dong.*

STEP 4. If he can make **g**, show him that he needs only to arch his tongue as for **g** while letting the air pass through the nose as in humming. If he cannot form **k, g**, it would be wise to postpone work with **ng** until **k, g**, are mastered. To aid the formation of **ng** the tip of the tongue may be held down with the tongue depressor.

Words for practice

Final **ng**	*Medial* **ng**	*Medial* **ng** + **g**	*Final* **ng** + **k**	*Medial* **ng** + **k**
sing	singer	finger	ink	twinkle
song	wringer	stronger	drink	sprinkle
sung	singing	England	crank	uncle
bring	ringing	English	chunk	thinking
long	hanging	single	honk	monkey
ring	banging	Kris Kringle	thank	

Rimes and babbles

Ring, ring, ring-a-ching-ching.

Ding, dong, bell,
Puss is in the well, etc.

Sing a song of sixpence,
A pocket full of rye, etc.

"Listening and doing" exercises for **ng**

Give every pupil who needs the practice in using **ng** a chance to lead the others.

Sing a song.
Bring me a string.
Put a ring on your finger.
Play you are flying.
Play you are drinking.
Play you are sleeping.

r as in *red*, *ear*, *are*

The Teacher Studies Herself

How **r** *is formed*

STEP 1. *Take the mirror.* Say *ray*.[1] Notice the position of your lips. Are they parted as for the following vowel or are they rounded as for **w**? Some speakers

[1] See page 90.

form **r** with rounded lips, as if they were influenced by the spelling of such words as ***write***, ***wrong***, ***wren***. The *tongue* is the determining factor in the formation of **r**, not the *lips*. The lips should adapt their shape to the adjacent vowel.

Open the mouth as for **ah**. Without changing the position of the lips, raise the tongue for *rah*. This will prevent the rounding of the lips for **r** and will enable you to study the tongue position for the sound. Now repeat *ah-rah*, *ah-ray*, *ah-row*, *ah-raw*, *ah-rue*. Try to get a motor image of the tongue position. The sides of the tongue touch lightly the upper back teeth; the tongue tip is raised toward the gums back of the upper front teeth, but does not touch them.

Say *rah*, then *are*. You will notice that the two **r**'s are different, both in their effect upon the ear and in their articulation. It is difficult to describe the formation of final **r**, as there are so many different varieties. In general, when final **r** is sounded, the tongue tip is placed farther back than for *initial* **r**. In fact, some speakers even curl the tip and pull it back some distance behind the gums. This tends to give the *whole syllable* in which the **r** occurs a muffled, unpleasant quality.

When initial **r** has been mastered, final **r** will take care of itself. The tongue, in producing **r** after a vowel, as in *car* or *cart*, naturally takes a position slightly farther back in the mouth. Remember that leaving off final **r** (for instance, pronouncing *are* like **ah**) does not signify inability to make the sound and should not be considered a speech defect. Many of our most careful speakers habitually omit final **r**.

It is rather difficult to isolate **r** distinctly. Therefore many teachers are in the habit of demonstrating the sound **r** by using an entire syllable. Generally they use the final syllable **er**, as in *father* or in *water*. But we have noticed above that initial **r** has a quite different tongue position from that of final **r**; also that final **r** easily degenerates into an unpleasant sound which affects the whole syllable. Moreover, **r** is an elusive sound, and the teacher, in trying to make it clearly audible, is often tempted to make it too pronounced, so that the child's acquaintance with the sound **r** is sometimes limited to an overstressed final.[1] For the sake of the child's speech it is much better to teach the **r** sound as it occurs initially, as in *ray*.

But you may have difficulty in isolating the **r** as an initial sound, especially if you have been in the habit of using the **er** syllable. The following suggestions may help you.

Say *ray* repeatedly, very lightly; try to get the motor image of the tongue movement. Notice that the tongue rises toward the gums at the beginning of the word. Repeat *ray* four times: *ray-ray-ray-ray*. The fourth time begin the word as if you intended to finish it, but stop just before you lower the tongue for the vowel. You will now produce a delicate initial **r**. You may raise the objection that the sound is scarcely audible, and it is true that successful teaching of the sound demands individual treatment for each child; but you will be justified in giving the additional time

[1] In fact, there are good reasons for considering **er** in *her*, *berth*, *water*, as representing *one* sound, — a vowel in which the tongue position has been modified because of the **r**.

for individual drill by the effect which it produces on the quality of the child's speech.

Children sometimes omit **r** or substitute **w**.

STEP 2. Sound **w** before the mirror. You will notice that the lips are rounded and the back of the tongue is raised toward the soft palate. This rounding of the lips is automatically connected with the raising of the back of the tongue. When you round the lips, therefore, there will be a tendency to raise the back of the tongue. It is easy, then, to see the importance, when correcting the child's faulty **r**, of avoiding the rounded-lip position in forming the sound.

The Teacher Studies the Child

The diagnosis of the child's difficulty in forming **r**

STEP 1. Observe the child's initial sound in *robin*, *run*, etc. Use appropriate toys and pictures, as suggested before,[1] if spontaneous conversation does not give you the necessary information.

STEP 2. Determine whether the child is consistent in his treatment of the sound. If he is able to form **r** correctly in some words, he needs only drill in the use of the words in which he has not yet learned to use the sound.

If he is not able to form the sound at all, he will need to be shown more carefully how **r** is formed.

The Teacher Helps the Child

First aid for correcting **r**

STEP 1. Sound the word *ray* several times for the child to imitate. Be careful not to round your lips; for

[1] See pages 12 and 13.

the child will imitate what he sees, and, if he rounds his lips as for **w**, he will be likely to complete the sound **w** by raising the back of the tongue.

STEP 2. Train the child's ear to listen for **r** by reciting rimes and stories that contain **r** before a vowel. He may clap or show by other signs that he recognizes the sound.

Rimes

1

Rain, **r**ain, go away,
Come again some other day.

2

Mistress Mary, quite contrary,
How does your garden grow?

Stories

1

Little Red Riding-hood.

2

Black Sambo.

Sound **r** again for the child to imitate. If he succeeds, he may use the sound in syllable drills, combining it in initial position with the vowels **a**, **e**, **i**, **o**, **u**. If he fails to give the sound correctly, show him how the **r** is formed.

STEP 3. Give the child the mirror. Ask him to imitate your tongue position as you pronounce *ah-rah*. The lower jaw should not move, nor should the lips round. You may help him to direct his tongue by inserting a toothpick at right angles with the upper teeth, the end of the pick marking the spot which the tongue tip should reach as it stretches upward to form **r**.

The mechanical aid is of course the last resort and will not be used with the very young child. Care must be taken to make the exercise interesting and in no wise embarrassing.

STEP 4

Drills for fixing the habit of forming r *correctly*

1

Rah! rah! rah!

2

Pupils sing *tra ra ra ra ra ra ra* as they march around the room.

3

Rap-a-tap-tap, rap-a-tap-tap
With the hammer's tip-tap-tee;
Rap-a-tap-tap, rap-a-tap-tap,
Making shoes for you and me.

4

Rain, rain, train, drain!
Ring, ring, bring, string!
Raw, raw, draw, straw!
Row, row, grow!
Rode, rode, strode!

Words for practice

Initial	*Medial*	*Initial Blends*
red	very	tree
rose	berry	trick
robin	carry	grass
rain	hurry	scrub
round	fairy	string
run	cherry	street

Song

Chiree, chiree, chiree,
The birds are singing in the tree.
Chiree, chiree, chiree,
'Tis morning on the farm.

From "'Tis Morning on the Farm"

"*Listening and doing*" *exercise*

Children take turns in leading.

Reach for ripe cherries.
Rap on the door.
Run around the chair.
Drink water.
Pick three red clovers.
Girls run around the room.
Give three cheers, — Rah! rah! rah!
Growl like an angry bear.
Ring the bell.
Write a letter.

l as in *lay, all*

The Teacher Studies Herself

How l is formed

STEP 1. *Take the mirror.* Sound l.[1] Notice that the tongue tip touches the gums back of the teeth. Place the tongue as if about to say *lay*, but draw in the breath instead of sounding the word. You will feel the cold air on the sides of the tongue. l is formed by blocking up the front of the mouth with the front edge of the tongue against the gums back of the teeth, leaving the sides free. The air will then escape over the sides.

[1] See page 92.

With the mirror observe the difference in tongue position for l in the utterance of *lay* and *ale*; *law* and *all*; *lee* and *eel*.

You will notice that the tongue touches the gums farther back for final l than for initial l.

Like r, l is a difficult sound to isolate. Because the final type of l is easier to make when demonstrating the sound, teachers often use it when sounding the letter l; that is, they give the single sound l the full value of the syllable al in *final*, *several*, *general*. The result of this is often that the pupil learns to give initial l also with a dull quality, while final l becomes doubly muffled. The presence of this "dark" l in a word tends to affect the quality of the voice itself, imparting to it a dull, unpleasant resonance.

Like r, l is an elusive sound, and the teacher, in trying to make it clearly audible, finds herself tempted to exaggerate it, so that the child's acquaintance with the sound l is sometimes limited to an overstressed final l.

You will find it easier to produce a clear form of l as a model in teaching the sound if you start with the initial form. Repeat *lay-lay-lay-lay* four times. The fourth time form l as if you were going to say *lay*, but check the sound just before the vowel begins. Now place the tongue as if you were going to say *lay*. Holding the tongue in this position, sound l. The object is to learn to produce and to teach l as an isolated sound with the clear quality that we hear in *lay*, instead of with the dull quality that we hear in *all*.

Teach the initial l, and final l takes care of itself. Teach final l as the model type, and initial l may become muffled.

Children frequently substitute **w** for initial **l** and a vowel for final **l**; sometimes they omit **l** entirely.

STEP 2. Say *way* before the mirror, then *lay*. Notice the difference in the shape of the lips for **w** and **l**. Notice also the difference in the position of the tongue. Remember that the tongue tip must *touch* the gums back of the upper front teeth in forming **l**.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming l

STEP 1. Observe the child's sounds in his everyday speech in *let*, *yellow*, *little*, *all*. If necessary call out the desired sound by pictures or toys.

STEP 2. Notice whether the child omits the **l** or substitutes some other sound for it. Determine whether the child is consistent in his attempts to utter the sound. If he is able to form **l** in some words, he needs only drill in using the sound in other words. For those who have not yet learned to form **l** correctly some instruction in its formation will be necessary.

The Teacher Helps the Child

First aid for correcting l

STEP 1. Sound **l** several times for the child to imitate.

STEP 2. Train the child's ear by having him listen for **l** in nursery rimes. Let him show by some sign — by clapping his hands or lifting his finger — that he recognizes the sound (see page 18, Step 2).

Little white lily·
Sat by a stone,
Drooping and waiting
Till the sun shone.

Little white lily
With sunshine is fed;
Little white lily
Is lifting her head.

STEP 3. Let the child try again to imitate the teacher's l. If he succeeds, give him simple syllable drills with l followed by different vowels: *lay*, *lee*, *lie*, *low*, *law*, *Lou*.

STEP 4. Show him how you touch the gums back of the upper front teeth with the tip of the tongue in forming l. Touch with a toothpick the tip of the tongue and the point on the gums where the contact is to be made. Let him try before a mirror to make the adjustment.

Exercises for drill

STEP 5. Sing la to a familiar march. The children march around the room singing la, la, la. Use the different vowels with l.

STEP 6

lay, lay, lay, *play*!
lace, lace, lace, *place*!
late, late, late, *plate*!
lass, lass, lass, *class*!
light, light, light, *slight*!
lean, lean, lean, *clean*!
late, late, late, *slate*!

call, calls, called!
mail, mails, mailed!
fall, falls, else, fault!
fell, felled, felt!
feel, feels, field!
coal, coals, cold, colt!
mile, miles, mild!

Words for practice

Initial	*Medial*	*Final*	*Blends*	*Blends*
let	yellow	fill	flower	falls
light	pillow	wall	blind	field
lemon	jelly	sell	climb	felt
lazy	William	roll	slip	film
leg	willing	mile	glass	false
load	Alice	bell	plate	build

Singing game

Did you ever see a lassie, a lassie, a lassie,
Did you ever see a lassie
Do this way and that?
Do this way and that way?
Do this way and that way?
Did you ever see a lassie
Do this way and that?

Look up, not down,
Look out, not in,
Lend a hand.

"Listening and doing" exercise

STEP 7. Give every child who needs the practice a chance to lead.

Laugh!
Look pleasant!
Lift your hat politely.
Look to your left.
Lend me a dollar, please.
Let your hands fall.
Play you are lame in the left leg.
Lay the flag on the table.
Fly like a bird.
Show me a yellow flower.

w as in *wet*; **wh** as in *when*

The Teacher Studies Herself

How w and wh[1] *are formed*

STEP 1. *Take the mirror.* Sound **w**[2] as in *wee.* Notice that the lips are rounded and drawn close together, leaving a small, round opening. The tongue is pulled back and raised in the back as for **u** in *truth.* The vocal cords vibrate. The sound **w** is voiced.

Now sound **wh** as in *white.* You will notice that the lips are shaped and the tongue is raised as for **w.** The vocal cords do not vibrate. Say **wh** and **w** alternately, with the finger against the larynx. You will feel the vocal cords vibrate for **w** and not for **wh.** The sound **wh** is voiceless.

Occasionally **v** is substituted for **w**, although American children seldom have any trouble with the sound. Many children substitute **w** for **wh**, making no difference between *wine* and *whine*, *ware* and *where.*

STEP 2. Sound **v** before the mirror. Notice that the lower lip is pressed lightly against the upper teeth. When **v** is substituted for **w**, the correction consists in sending the breath stream between the rounded lips.

The substitution of **w** for **wh** is not a matter of incorrect articulation; it is the use of the voiced for the voiceless sound. The difference between the two sounds **w** and **wh** may be demonstrated by holding a strip of paper before the lips when sounding *whine* and *wine.* For *whine* the paper flutters noticeably.

[1] There are other views concerning the nature of w and wh, but for practical teaching purposes the following descriptions are satisfactory.

[2] See page 83.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming ***w*** *and* ***wh***

STEP 1. Observe the child's **w** in ***water***, ***wet***, ***wash.*** Notice whether he is consistent in his faulty utterance of **w**. If he is able to form **w** correctly in some words, he needs systematic practice in those words in which he does not form the sound correctly. For those who have not learned to use the correct lip position for **w** the following procedure will be helpful.

STEP 2. Observe the **wh** sound in ***whoa***, ***whip***, ***white***, and ***wheel***, to discover whether the child distinguishes between **w** and **wh**.

The Teacher Helps the Child

First aid for correction of ***w***

STEP 1. Sound **w** several times for the child to imitate. Use firm, vigorous lip action.

STEP 2. Have him train his ear by listening for **w** in rimes, songs, and stories. Have him show by some sign that he recognizes the sound.

> **W**ynken, Blynken, and Nod one night
> Sailed off in a **w**ooden shoe.
>
> **W**ee **W**illie **W**inkie went through the town,
> Upstairs, downstairs, in his nightgown.

STEP 3. Let the child try again to imitate the sound **w**; also **w** in syllables, using firm lip action:

> **W**oo-o-o-woo-o-o-woo-o-o- (imitating the wind)
> Tweet! tweet! tweet! (imitating the bird)
> Quack! quack! quack! (imitating the duck)

STEP 4

Words for practice

Initial w	*Blends*
wood	twinkle
willow	twitter
wonder	quack
wing	quart
winter	swallow
walk	swim

STEP 5

Rime

The north **wind** doth blow,
And **we** shall have snow,
And what **will** poor robin do then, poor thing?
He'll sit in the barn
And keep himself **warm**,
And hide his head under his **wing**, poor thing.

First aid for correcting ***wh***

STEP 1. Sound **wh** several times for the child to imitate. Let him hold a light strip of paper or a feather before his lips as he imitates the sound; the paper will flutter noticeably for **wh** but not for **w**.

STEP 2. Train the child's ear to listen for **wh** in songs, rimes, and stories. Let him show by some sign that he recognizes the sound.

For recognizing ***wh***

1

Song, "Whippoor-will."

2

Oh **where**, oh **where** has my little dog gone?
Oh **where**, oh **where** can he be?

3

Whee, whee, whee,
Whoa, whoa, whoa,
Whirl the top,
See it go.

STEP 3. Have the child try again to imitate the sound **wh**; also **wh** in syllables, using firm lip action:

Whoa-whoa-whoa (stopping the runaway horse)
Whee-whee-whee (imitating the siren)

Words for practice

STEP 4

whistle	wheel
whip	whiskers
where	whether
white	when
why	whine
while	what

*Rimes using **wh** sound*

STEP 5. Insist upon distinct utterance of all sounds.

Whee, whee, whee; whoa, whoa, whoa;
See my little pony go.

w** and **wh

Twinkle, twinkle, little star,
How I wonder **what** you are;
Up above the world so high,
Like a diamond in the sky.

When the blazing sun is gone,
When he nothing shines upon,
Then you show your little light,
Twinkle, twinkle, all the night.

STEP 6

"Listening and doing" exercises

Children take turns in directing other members of the class. Insist on distinct utterance always.

Walk away.
Wave your hands.
Walk with William.
Wink your right eye.
Quack like a duck.
Swallow.
Whisper to your neighbor.

ch as in ***ch**ick*; **j** as in *jump*

The Teacher Studies Herself

How **ch** *and* **j** *are formed*

STEP 1. *Take the mirror.* Say *tea.* The tongue tip blocks the front of the mouth for **t**, then drops into position for the vowel. Say ***she.*** This time the sides of the mouth are blocked; the tongue tip is free.

Now say ***chee.*** The mouth is blocked as for **t**, but the contact of the tongue with the gums is farther back, somewhat as for **sh**. Thus **ch** may be considered as consisting of two sounds, **t** + **sh**, as is indicated in the conventional spelling for *catch.* It is a very close blend; in fact, many persons look upon it as a single sound, and there are good reasons for so doing; but for practical purposes of teaching articulation it seems best to treat **ch** as a blend.

Sound **j** in *jay.* You will notice that the tongue position is the same as for **ch**. Place your fingers lightly on the larynx, to feel the vocal cords vibrate. The vocal

cords do not vibrate for **ch**. The sound **j** is the voiced twin of **ch**; its blendlike character is indicated by the conventional spelling of bri**dge**.

Children often substitute **t**, **ts**, or **sh** for **ch**. They substitute **d**, **dz**, **y**, or **ch** for **j**.

The Teacher Studies the Child

Diagnosis of the child's difficulties in forming ***ch***, ***j***

STEP 1. Observe the child's sounds in ***ch****icken*, ***ch****air*, ***catch***; in *jump*, *Jack*, *bri****dge***.

STEP 2. Notice whether the child is consistent in his substitutions for **ch** and **j**.

If he can form the sounds in some words, he needs repeated practice in pronouncing those words in which he does not use the correct sounds.

For children who have difficulty in forming **ch**, **j**, the following procedure will be found helpful.

The Teacher Helps the Child

First aid for correcting ***ch***, ***j***

STEP 1. Sound **ch** several times for the child to imitate.

STEP 2. If the child has difficulty in imitating **ch**, develop the sound in the following manner:

First let him repeat **t**, **t**, **t**, **t**, **t**, **t**, **t**.
Then **sh**, **sh**, **sh**, **sh**, **sh**.
Finally **tsh**, **tsh**, **tsh**, **tsh**, ***chick***.

Develop **j** as follows:

First let the child repeat **d**, **d**, **d**, **d**, **d**, **d**, **d**.
Then **zh**, **zh**, **zh**, **zh**, **zh** (sound heard in *azure*).
Finally **dzh**, **dzh**, **dzh**, **dzh**, *jump*.

STEP 3. Train his ear to listen for **ch** and **j** in rimes and stories. Let him show that he recognizes the sound.

Chiree, **ch**iree, **ch**iree,
The birds are singing in the tree,
Chiree, **ch**iree, **ch**iree,
'Tis morning on the farm.

From "'Tis Morning on the Farm"

"Let me in."
"No, no, not by the hair of my **ch**inny-**ch**in-**ch**in."

From "The Three Little Pigs"

Jack and **J**ill went up the hill.

Jack be nimble,
Jack be quick,
Jack, **j**ump over the candlestick;
Jump it lightly, **j**ump it quick,
But don't knock over the candlestick.

STEP 4. Let the child try again to imitate the sounds **ch** and **j**. Also **ch** and **j** in syllables, as:

Choo-**ch**oo; **ch**oo-**ch**oo (the train for little ones);
Chug-**ch**ug; **ch**ug-**ch**ug (the automobile);
Jig-**j**ig; a-**j**ig-a-**j**ig-**j**ig;
Jug-**j**ug; a-**j**ug-a-**j**ug-**j**ug.

STEP 5

Words for practice

ch

Initial	*Medial*	*Final*
chin	sandwiches	rich
chair	crutches	bunch
chores	lunches	much
cheese	teacher	such
children	branches	match
chickens	catcher	patch

j

Initial	*Medial*	*Final*
joke	engine	bridge
Jack	ginger	George
Jill	magic	fudge
just	courageous	cabbage
jelly	pigeon	sponge
giant	oranges	carriage

Nursery rime for practicing **ch** *and j*

Jack and **J**ill went up the hill,
To fe**tch** a pail of water,
Jack fell down and broke his crown,
And **J**ill came tumbling after.

"*Listening and doing*" *exercise*

STEP 6. Children take turns in directing other members of the class.

Touch your chin.
Chase the chicks.
Sit on the chair.
Ring the chimes.
Eat your lunch.
Stretch out your arms.
Jump, Jack. (John, Jane, George.)

CHAPTER III

THE ORGANS OF SPEECH

When we set our hands to work to acquire a new set of movements,—as, to sew or to play the piano,—we watch our fingers, to control what they do; but we are unable to observe what takes place in our speech mechanism when we speak; therefore few of us are aware what adjustments we make in producing the speech sounds. If we could watch what we do when we speak, we could more readily direct the movements that are made by our organs of speech.

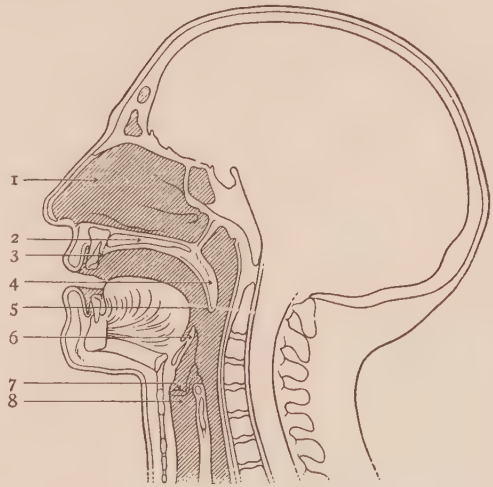


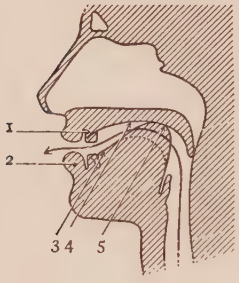
FIG. 1. The organs of speech

1, nose; 2, hard palate; 3, gum ridge; 4, soft palate; 5, uvula; 6, epiglottis; 7, vocal cords; 8, larynx

In the pronunciation of a single word we make, all unconsciously, marvelously rapid and delicate movements. We learned to do this gradually, by imitation of the people around us, and we do it with a fair amount of accuracy,

although few of us are aware of the actual adjustments that we are making in this process.

Take, for example, the simple word *cabin* and note what takes place as you pronounce it. With a mirror you can see exactly what is happening.



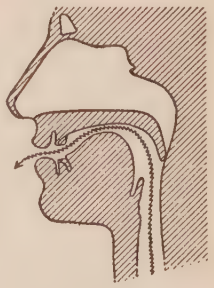
c

FIG. 2

1, lips; 2, teeth; 3, tongue; 4, hard palate; 5, soft palate

The lips are partly open for **c** (**k**) (see Fig. 2) ; the front of the tongue is lowered so that the tip touches the lower front teeth, while the back of the tongue strikes sharply against the soft palate but drops instantly, letting the air escape with a kind of explosive sound. The velum is raised, shutting off the nasal cavities.

As soon as the explosion has taken place, the vocal cords begin to vibrate for **a** and continue to the end of the word. The lower jaw drops, the mouth now opens a trifle wider, and the tongue is slightly arched toward the front (see Fig. 3). Now the lips close tightly, but suddenly open again for **b** (see Fig. 4).



a

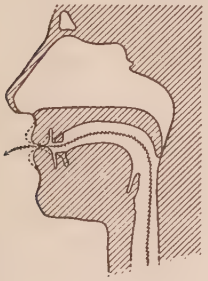
FIG. 3

Again the air escapes with a kind of explosive sound, as in the case of **k**, and this time you can actually see the releasing of the pressure which causes the explosion.

To form **i** the open lips are spread as if slightly smiling; the tip of the tongue moves downward, while the front is arched toward the hard palate (see Fig. 5). Instantly the tip of the tongue moves upward and presses against the teeth, or the gums just back of the teeth, making a complete

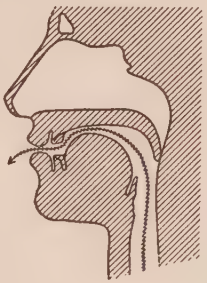
closure for **n**; at the same time the soft palate is lowered, opening the passageway to the nose, through which the air, which has been blocked up in the mouth, escapes as we see in Fig. 6.

Thus we see that in the utterance of this simple five-letter word there are five sounds, each requiring the adjustment of five organs of speech, —the cords, velum, tongue, teeth,



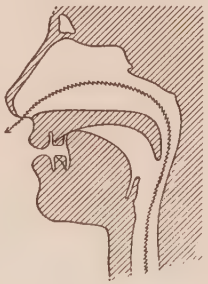
b

FIG. 4



i

FIG. 5



n

FIG. 6

lips, — twenty-five adjustments in all. And all these delicate movements of the organs of speech take place simultaneously, and with amazing accuracy, in the fraction of a second, without a voluntary movement on our part!

What a wonderful instrument is the human speech mechanism! Even the slightest change in the adjustments or the movements of the organs of speech brings a corresponding change in the utterance of the whole word!

Every movement, every separate adjustment, though unconscious, must be made with perfect precision if the whole effect is to satisfy.

Just as every individual instrument in an orchestra must be in perfect harmony with every other instrument, so every part of our speech mechanism must act in harmony

with every other part, or else the whole mechanism is likely to be thrown out of balance.

In fact, the human speech instrument should be looked upon as the most wonderful and complicated of all musical instruments, —all the more marvelous because it can be operated with the greatest speed and accuracy, and with movements almost wholly unconscious on our part.

Fig. 7

In every musical instrument there are three essentials for producing tone. There must be

Something to vibrate, or a *vibrator*.

Something that causes vibration, or a *stimulator*.

Something that reënforces the vibration, or a *resonator*.

In the human speech instrument the vocal cords serve as the *vibrator*, the breath stream as the *stimulator*, and the mouth and nasal cavities as the *resonator*.

The Vibrator

We observed as we pronounced the word *cabin* that the vocal cords began to vibrate as we uttered **a**, and continued to vibrate to the end of the word (Fig. 7, *a*, *b*, *c*).

If you could look down upon your larynx while you are breathing, you would see that the vocal cords are wide apart, as in Fig. 7, *a*. The coverings of the box are so pulled apart that there is a wide space between the vocal cords, and the air comes out unimpeded and without perceptible sound. But if you should be able to look down upon the larynx

during the pronunciation of **k**, you would find the cords drawn nearer together, as in Fig. 7, *b*. This time the air meets with some obstruction as it passes through the larynx, for it escapes with a very perceptible sound. Such a sound is called a *voiceless* or *breathed* sound. If, once more, you should be able to look down upon the larynx during the articulation of **a**, you would see the vocal cords drawn very close together, as in Fig. 7, *c*. This time the air, in passing through, meets so much resistance that the vocal cords are set into violent vibrations. Such a sound is called a *voiced* sound. Voiced sounds are articulated with less expenditure of breath and less muscular force than voiceless sounds.

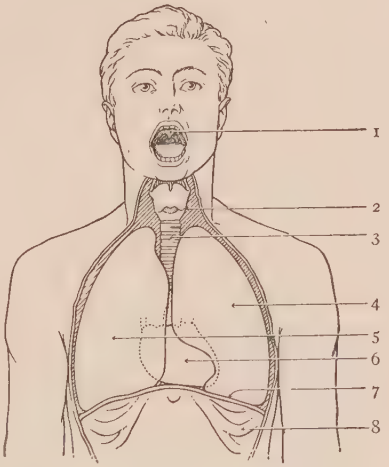


FIG. 8

1, soft palate; 2, larynx; 3, trachea; 4–5, lungs; 6, heart; 7, diaphragm; 8, rib

All sounds may be pronounced with or without voice, although a language may lack either the voiced or the voiceless variety of individual sounds. Take, for instance, the sound **h**. The French, Italians, and Spaniards lack this sound entirely and find it very difficult to learn. But the Czech **h** is voiced, and the Czech has as much difficulty in unvoicing **h** as we have in voicing it.

You should practice pairs of sounds — **s**, **z**; **f**, **v**; **t**, **d** — until you can distinguish clearly the difference between the

two classes of sounds, voiced and voiceless, and can make them at will. This will help you later, in the acquisition of unfamiliar sounds.

The Stimulator

We have said that the breath stream is the stimulator in the human speech instrument. It is the stream of air from the lungs which sets the vocal cords in vibration and thus produces the human voice.

The best use of the stimulator demands (1) *free* and *unrestricted* inhalation and (2) *controlled* exhalation. Both functions depend largely upon the skill in the use of the *muscles* of inhalation and exhalation.

INHALATION

The chief muscles of inhalation are the *diaphragm* and the *external intercostal* muscles. The largest and strongest of these is the diaphragm. In shape it resembles an inverted bowl. It forms the floor of the chest and the roof of the abdomen.

The external intercostal muscles are attached at the upper end to the collar bone and at the lower end to the ribs. Take a full breath, using the whole chest. The external intercostal muscles *contract* to elevate the ribs, changing their position to a still more oblique position, thus increasing the chest cavity. At the same time the diaphragm *contracts*, flattens, and presses down upon the abdominal organs below it. This likewise increases the capacity of the chest. The lungs expand, and the air rushes in to fill the cells. The chest is now expanded in three directions, up and down, from side to side, and from front to back. (See Fig. 10.)

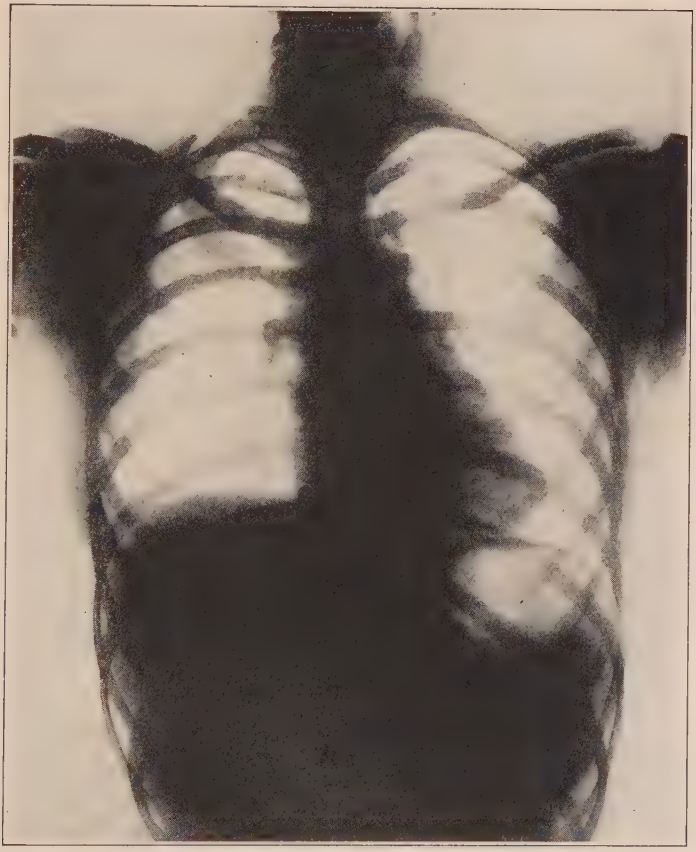


FIG. 9. X-ray picture of the human thorax

This figure is a remarkable picture of the human thorax, with the apex of the heart showing clearly on the right of the spinal column and with the base stretching across the column, part of it showing distinctly on the left side opposite the apex. The diaphragm is located just below the lungs. Its position can best be observed on the right side because of the stomach, which extends below the left lung

You can feel the expansion by placing the hands on the chest, both front and back, while taking a full breath.

Take care never to raise the shoulders or chest by forced muscular effort during inhalation. The heaving of shoulders and chest restricts the flow of air into the lungs. Breathe deeply and freely from below upward. Think of the breath stream as coming in unimpeded and filling the whole chest, not any one part of it.

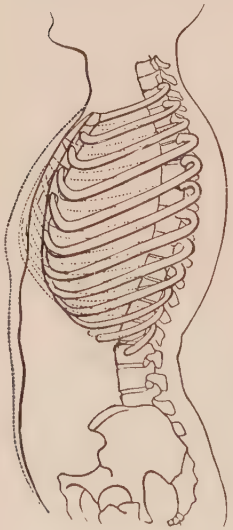


FIG. 10
The dotted lines show position during inspiration

EXHALATION

The chief muscles of exhalation are the *abdominal muscles* and the *internal intercostals*. The latter comprise the short muscular fiber between the ribs. In exhalation the diaphragm and the internal intercostals are relaxed.

Take a full breath and let it out slowly, as you do in speaking. In exhalation the abdominal muscles *contract* and force the diaphragm upward. The diaphragm, being *relaxed*, resumes its convex form, lessening the depth of the chest cavity. At the same time the internal intercostal muscles *contract*, depressing the ribs and thereby lessening the chest cavity from side to side and from front to back.

The muscular *pressure* in exhalation *forces* the air out of the lungs and into the larynx, where the speech sounds are produced. For speaking, then, exhalation under *controlled pressure* is of first importance. How completely the outgoing breath is controlled is much more significant than

how much air is inhaled. Most important is control without *rigidity* and undue effort.

Breath power is developed by persistent practice in correct breathing. The breathing exercises (p. 64) develop skill in taking in a full breath, holding the breath, and controlling its outlet in speaking.

Nothing does more to promote free and unrestricted inhalation than *relaxation*, especially of the throat. For this reason relaxation exercises should precede breathing exercises. Deep, quiet, rhythmic breathing is a great tranquilizer, with power to dispel nervousness before speaking. The following pages contain exercises for the development and control of the organs of speech. They are arranged for direct presentation to children.

The Resonator

It is the resonator which gives audibility and characteristic quality to the tone produced by the vibrator. You know that a violin, a harp, and a cello all produce music of a distinct quality, so that when you hear one played you know what the instrument is without seeing it. Its characteristic tone is determined largely by the size and shape of the resonance chamber, or the sounding box, of the instrument. Although the length of strings of the violin or harp may be changed by the performer, the shape of the sounding box remains fixed.

But our human musical instrument has the especially wonderful power of changing the size and shape of the resonance chamber itself, as we have already observed in the pronunciation of *cabin*. If you will stand before a mirror in a good light and open the mouth wide, as for the vowel **a** in

father, you will see that the mouth forms a kind of cavern with the tongue as the movable floor, the palate as the roof, and the lips and teeth as a kind of twin double doors which can be opened or closed at will. This cavity, together with the nasal cavities, forms the resonance chamber of the voice.

The front part of the "roof" is called the *hard palate*; the back part, the *soft palate*. The reason for these names you will readily understand if you will feel with your tongue the roof of the mouth as far back as you can reach. Just back of the upper teeth you will feel the teeth ridge. Then follows the hard palate, and finally the soft palate.

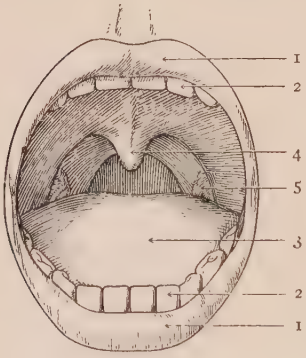


FIG. 11

1 l'ps; 2, teeth; 3, tongue; 4, soft palate; 5, tonsils

The soft palate, or *velum*, is movable, especially the tapering tip, which is called the *uvula*. The air as it leaves the lungs has two possible paths of escape. It may pass out through the mouth or through the nose. The soft palate, which acts as a door, opening and closing the nasal passage, determines the course which the air shall take (Fig. 11).

If you will stand before a mirror in a good light, you can observe the action of the soft palate as it opens and closes the doorway. Open the mouth wide and say **a** as in *father*. Notice that the soft palate is raised and pressed against the back wall of the throat, thereby closing the passage to the nose. Now say **ng** as in *sing*. The soft palate is lowered against the back of the tongue. The passage to the nose is

now open, but the passage through the mouth is closed, permitting the air to pass through the nose only.

The tongue is a wonderfully flexible mass of muscles, which can be lengthened or shortened, arched or flattened, raised or lowered, and moved about in all directions. It is especially by the action of the tongue that the resonance chamber of our musical instrument changes in shape.

Relaxation Exercises

Relaxation is the first step in correct breathing and good tone production. The whole body should be relaxed, especially the throat. Children as well as adults find it much easier to unbend and become lax under the influence of good music. The soft tones of the piano, or the teacher's restful voice in singing, are always effective. The whole room should bear an atmosphere of perfect peace and quiet during the relaxation exercises.

Exercise 1 (for small children)

Sit comfortably, with both feet resting on the floor. Shut your eyes. Feel as lazy as you can. Play you are a rag doll. Let your head drop forward on the desk. Imagine that you are lying on the soft, cool grass on a warm summer afternoon. Have your teacher play or sing softly for you as you rest.

Exercise 2

Stand in an easy position, with the body well balanced on both feet. Drop your arms full length at your sides. Imagine that each arm is a rope dangling from the shoulder. Fling your arms limply from the shoulders (outward). Your teacher will lift each arm to see how well you are relaxed.

Vary this exercise by lifting the arms shoulder high as you count slowly 1, 2, 3, 4, 5. Then let the arms drop of their own weight. Repeat until you feel perfectly relaxed.

Exercise 3

Take the position as in Exercise 2. Let the lower jaw drop. Roll the head around very slowly, as if on ball bearings, over the right shoulder, the back, the left shoulder, and the chest. Music with appropriate rhythm adds much to the effectiveness of this exercise.

Exercise 4

Take an easy standing position with the feet far enough apart to balance the body well. Yawn slowly three times; this is excellent for relaxing the muscles of the throat. Yawn as you rise on tiptoe slowly; at the same time stretch your arms high over your head. Let them drop of their own weight. This is a good exercise to take before speaking.

Breathing Exercises

After the body is relaxed, you are ready to *sense* a full breath, that is, a breath that fills the *whole* chest. In the beginning this is more easily accomplished in a lying position than in a standing position.

While it is important that you learn to *take in* a full breath, the *control* of the outgoing breath is fundamental in speaking, since it is the outgoing breath which is used in producing speech sounds.

Children are often inclined to think that deep breathing means great bodily effort. They immediately tense the whole body, raise the shoulders, push the head back, and even inflate the cheeks. Under no circumstances should this be permitted. The breath should come easily, with no apparent effort. There should be no strain, either in taking in a full breath or in consciously controlling its outlet. A full breath never means a labored breath. All breathing exercises, when taken indoors, should be given with windows open.

Remember! Begin every breathing exercise with a relaxation exercise. Never attempt a full breath when the body is rigid and the throat tense. Do not continue the exercises to the point of the slightest discomfort or fatigue.

Exercise 1

Lie flat on the floor [1] as if to rest. Give your whole weight to the floor. Yawn slowly three times to relax.

1. Place your hand lightly on the abdomen. Take a slow, even breath through the nose while your teacher counts 1, 2, 3. Feel the walls of the abdomen move *outward* as you breathe in. Let the breath out suddenly through the open mouth. Feel the walls of the abdomen *sink in.*

2. Place the hands at the sides above the waist line as you breathe in and out. Feel the ribs move *up* and *out* as you breathe in, *down* and *in* as you breathe out.

3. Place the hands on the upper chest as you breathe in and out. Feel the chest *rise* as you breathe in and *fall* as you breathe out.

Exercise 2

Repeat Exercise 1 in a *sitting* position; in a *standing* position. Do not raise the shoulders or pull the chest up when taking a deep breath. Your shoulders and throat should be relaxed. Heaving the chest or lifting the shoulders with muscular effort will not help you in taking a deep breath. On the contrary, it will hinder you.

Exercise 3

Sip the air *slowly* through the mouth as your teacher counts 1, 2, 3, 4, 5. With one hand at the side above the waistline in front, and the other hand at the back, feel what happens as you breathe in. Hold the breath for three counts. Let it all out *at once.* Do not attempt to hold the breath by lifting the shoulders. Your shoulders and arms should be relaxed.

[1] Some teachers may not find it practicable to have the children take this exercise lying on the floor.

Exercise 4

Consciously take a full breath as you walk to school in the morning. See how many steps you can take while you hold the breath easily, freely, and without any noticeable effort. Never hold the breath until you feel the slightest discomfort.

Exercise 5

Relax as completely as you can. Take a full breath through the mouth or nose. Imagine that you are blowing soap bubbles. See how many bubbles you can blow on *one steady* outgoing stream of air. Do not interrupt the breath.

Exercise 6

Relax the body, especially the throat (see relaxation exercise 4). Take a full breath. Say *woo-woo-woo* in imitation of the wind. How long can you make the wind howl without the slightest strain?

Exercise 7

Relax. Take a full breath through the mouth. Hold it for two counts. Then say *woe, woe* (on one pitch). Cut the sound off *short* by stopping the breath. Hold the breath again for two counts. Repeat "woe, woe" without taking a fresh breath.

Vary the exercise by saying *woof, woof, woof* with vigorous lip action. This exercise gives you practice in taking in a full breath, in holding the breath, and in using it for speaking.

Exercise 8

Relax. Take a full breath. Read a short paragraph of easy reading material, making it a point to take in a short additional breath at every convenient pause. Never wait until the breath is gone before taking a fresh breath. Learn to breathe easily and without being noticed. Vary the reading exercise with speaking.

Exercises for Strengthening the Muscles in Breathing

Exercise 1

Relax. Stand in an easy, erect position with the chest up. Do not push the shoulders up or back. Raise the arms at the sides, shoulder height, keeping the elbows straight. Take care not to strain the head or bend the body backward. Make little circles in the air from front to back, with the arms in the above position, *while holding your breath.* Relax and try it again. This exercise will not only strengthen your muscles, but will also straighten your back if you are inclined to stoop.

Exercise 2

Relax. Stand in position. Place your hands against your sides, above the waistline. Take four or five short catch breaths. Feel the ribs *move out* at the sides with each short breath. Hold the breath for two seconds. Let the air out with five short puffs. Feel the ribs *draw in* at the sides with each puff.

Lip Exercises

One of the most frequent causes of indistinctness of speech is inactivity of the lips, especially of the upper lip. Every lip movement is apt to have a corresponding tongue movement habitually associated with it. Therefore the movements of the lips are often indicative of the movements of the tongue. Stiff, inactive lips usually indicate sluggish tongue action.

Remember that the following lip exercises are for the purpose of freeing and strengthening the lips. For that reason they are exaggerated. We do not recommend that you "mouth" your words in speech.

Exercise 1

Use a mirror. With teeth closed say **ah-oo-ee-oo, ah-oo-ee-oo** slowly and with vigorous lip action. Look in the mirror. See that you *round* the lips for **oo** and *stretch* the lips for **ee.**

Repeat with teeth separated; with wide-open mouth.

Exercise 2

Holding the lower lip motionless, extend the upper lip *outward* and *upward* to touch the nose. Be sure that the upper lip is free from the teeth. Close the lips firmly. Repeat until you gain flexibility and control of the upper lip.

Exercise 3

Form words and short sentences for lip reading. Words containing initial **p, b, m, f, v, w,** and **wh** are easily read if you use your lips well. Be sure not to whisper the sounds. You should form your sounds so well with the lips that your teacher and classmates will not have the slightest difficulty in comprehending your words and sentences.

Exercise 4

Say *we-woe-we-woo, we-woe-we-woo* with vigorous and exaggerated lip action.

Notice how the lips *spread* as in a smile for **we** and are rounded for **woo.**

Tongue Exercises

One cause of indistinct utterance is sluggish, inaccurate tongue action. These exercises are valuable as aiding to acquire conscious control of the tongue muscles. It is not desirable that the child should be conscious of the workings of his organs of speech while he is speaking; but through purposeful practice, flexibility of the tongue and the habit of making accurate tongue adjustments can be gained. The exercises should be preceded by relaxation exercises.

Exercise 1

Use a mirror. Thrust the tongue out *slowly*, as far as you can, while some one counts 1, 2, 3, 4. Do not let it rest on the lower lip. Let it spring back *quickly* into place. Repeat five times.

Exercise 2

Extend the tongue as in exercise 1. *Point* the tongue by making the muscles of the tip tense. Use the mirror to see how sharp a point you can make.

Exercise 3

Point the tongue. Then lift the tip slowly and dot the roof of the mouth in three places, the *front*, *middle*, and *back*, as far as the tongue can reach. Relax the tongue and repeat the exercise.

Exercise 4

Open the mouth as for **ah**. *Use the mirror.* Say **ah-la-la-la-la** rhythmically. Keep the lower jaw steady. Remember this is a *tongue* exercise, not a jaw exercise.

Be sure that with every **la** you feel the tongue tip touch the inner surface, first of the *upper* and then of the *lower* teeth.

Make the sound lightly. Gradually increase the speed. Vary the exercise by singing **la** *lightly* to any familiar melody. Strive for *light*, *quick* action of the tongue.

Exercise 5

Say rhythmically

te-**de**′; te-**de**′; te-**de**′;
te-de-**de**′; te-de-**de**′; te-de-**de**′;
te-de-de-**de**′; te-de-de-**de**′; te-de-de-**de**′.

Increase speed.

Soft-Palate Exercises

Voice quality is dependent largely upon proper adjustment of the velum, or soft palate; yet it is difficult to direct the velum. These exercises are helpful in gaining velar control.

Exercise 1

Say *slowly*, emphasizing each sound, **ung-ah, ung-ah, ung-ah**; **ump-ma, ump-ma, ump-ma**." Use the mirror to see the soft palate *lower* for **ng** and *rise* for **a**. *Pronounce* the syllables three times; then *whisper* the sounds. Repeat the exercise.

Exercise 2

Imitate the ringing of the bell, *Ding-dong*, prolonging the **ng** *softly*.

Exercise 3

Say **ing-ick, ing-ick, ing-ick** three times, prolonging the **ng** and making the **k** stop short and sharp. Repeat, *whispering* the syllables.

Miscellaneous Exercises for Distinct Utterance

flip, flap, flop; flicker, flacker; flitter, flatter, flutter; flock, flake, fluke; flay, flee, fly, flow, flew.

plate, pleat, plight; bleat, blight, bloat; blink, blank.

weep, wipe; wake, week, wick, woke; wait, wet, wit, wight; waist, west, wist.

chink, chank, chunk; chick, cheek, chuck, choke.

toot, toot, toot; tut, tut, tut; tight, tight, tight; test, taste, toast; tick, tack, tuck; tip, tape, top; taint, tent, tint.

tippet, tappet; ticket, picket; tickets, pickets.

fate, feat, fight, fit, fat; mate, met, might, moat; date, debt, dot, dote; gate, get, got, goat; neat, night, note.

leave, live, love; stove, clove, rove.

kept, slept, crept, wept; wrapped, tapped; shaped, taped; soaped, roped.

Repeated practice of these words should be useful in making the tongue and lips flexible and agile. Care should be taken to form the finals with precision. Eventually considerable speed should be developed, but the words should never be uttered so rapidly that the final sound of one word becomes the initial of the next.

CHAPTER IV

THE SOUNDS OF ENGLISH

The following pages, which contain descriptions of English sounds, are intended for reference rather than for continued reading. For the purpose of making them accessible for ready reference the individual sounds have been described separately, though the relations between kindred sounds have been indicated.

In reading the directions do not think that they are intended to represent the only way in which the sounds can be correctly formed. We have intended to give a "recipe," as it were, which, if followed, will enable one to make the sounds. But, just as there are several recipes for making the same dish (when using sour milk, for instance, one is always warned that the quantity of soda depends upon the sourness of the milk), so the exact adjustments to be made will depend, in the case of every speaker, upon the structure of his own organs of speech.

The student should read these pages with his mirror before him, and, forming each sound as he reads about it, should test the correctness of the descriptions of the sounds for his own speech habits.

The beginner will understand the descriptions of individual sounds more easily if he has already learned something about the nature of speech sounds and how they are classified. The following pages present these facts in brief and simple form.

Every speech sound is the result of certain definite adjustments of the organs of speech, made simultaneously and in coördination with one another.

In the formation of *consonants* there is set up in some part of the speech mechanism more or less obstruction to the breath stream as it flows through the mouth. This can be readily observed if you sound **b**, **d**, **v**, **z**.

For **b** and **d** the breath stream is for the moment completely obstructed; for **v** and **z** there is only a partial obstruction.

Vowels result when the adjustments of the speech organs modify the shape of the resonating chamber without in the least impeding the passage of the outgoing breath. Notice the changing shape of the unobstructed mouth cavity in the utterance of **a** (*father*), **i** (*machine*), **u** (*true*).

Since the classification[1] of speech sounds as consonant or vowel depends upon whether certain speech organs are so adjusted as to *obstruct* the breath stream or merely to *modify* the shape of the mouth cavity, it is clear that a vowel may pass into a consonant by the closing of the channel, while a consonant may become vocalic in nature if the channel is opened.

Thus, we find no definite boundary line between **u** (*true*) and **w** (*we*); between **i** (*machine*) and **y** (*yes*). The relation between these pairs of sounds is sometimes indicated in our spelling. The letter **w** stands for the consonant in *won* but for the vowel in *now*; **y** has consonant value in *yard* but vowel value in *dry*.

[1] There are other methods of classifying speech sounds into consonant and vowel. Some writers prefer to classify the sounds according to their acoustic properties, others according to their syllable-forming properties. The physiological classification is used here, as being more in harmony with the purposes of this book.

I. Consonants

In the analysis and classification of consonants we have to consider

1. The *degree* of obstruction. The obstruction may be

Complete, momentarily blocking the air behind it; examples, **p**, **t**, **k**.

Incomplete, so that the breath escapes in a continuous stream; examples, **f**, **z**.

2. The *place* of obstruction. The obstruction may be made

With the lips; examples, **p**, **m**.

With lip and teeth; examples, **f**, **v**.

With some part of the tongue against the teeth or against some part of the hard or soft palate; examples, **th**, **t**, **n**, **l**, **k**.

With the vocal cords; example, **h**.

3. The *character* of the outflow of the breath stream. The breath stream may be

Momentarily checked, then allowed to issue with an explosive puff; examples, **p**, **t**, **k**.

Checked in the mouth but allowed to pass out through the nose; examples, **m**, **n**, **ng**.

Only partially checked, so that it flows in a continuous stream through the narrow aperture offered by the obstruction; examples, **f**, **s**, **l**.

4. The *adjustments* of the speech mechanism.

The *lips* may be parted, brought together, spread, rounded, protruded.

The *teeth* (or the jaws) may be parted or brought together.

The *tongue* may be drawn forward or back; it may be raised or lowered, contracted or expanded, in front, in the middle, in the back, at the sides.

The *velum* may be raised or lowered.

5. The action of the *vocal* cords: whether vibrating or not.

Consonants occur in pairs. For each voiced consonant there is a corresponding voiceless consonant,[1] and vice versa. The apparent difference between two such paired sounds lies in the vocal-cord action. There are other slight differences, however, between these twin sounds.

If the words *pay*, *bay*, are uttered successively before the mirror, a difference in lip pressure can be observed; if the same words are spoken with the fingers held before the lips, a difference in breath force can be felt. The voiceless sound is uttered with slightly more muscular pressure and a more energetic breath stream than the corresponding voiced consonant.

For the sake of convenience, **p** and **b**, **f** and **v**, **s** and **z**, etc. are classified as voiceless and voiced equivalents of each other.

For reasons of economy of effort a sound may be influenced in its articulation by adjacent sounds. Just as words have been shortened by the omission of syllables, as in *don't* for *do not* and *won't* for *will not*, so the enunciation of words has been simplified by cutting out adjustments, the same adjustment serving for the utterance of two neighboring sounds which were originally very different. *Handkerchief* is a good example of such simplified utterance. The two sounds **n**, **d**, have been replaced by one, which is formed, not with the tongue position of **n** (or **d**), but with the tongue

[1] See discussion of voiced and voiceless sounds, p. 57.

all ready for the following **k**. So we say, not *handkerchief*, but *hangkerchief*. Other examples of such assimilations are *houses*, in which the final sound of **s** in *house* has been changed in the plural to the voiced member of the **s-z** pair through the influence of the vowels preceding and following the consonant; *dogs*, in which the letter **s** represents, not the **s** sound, as in *cats*, but the **z** sound, the voiced counterpart of **s**, on account of the preceding voiced sound **g**; *compare*, in which an original **con** has become **com** on account of the following **p**.

Other words in which assimilations frequently occur, though they are not accepted in good usage, are *pumpkin*, in which **m** is changed to **ng** ("punkin") because of the following **k**; *seven*, in which **v** and **n** are replaced by **b** and **m** ("sebm"); *something*, in which *thing* is reduced to **pm**.

Remember that you will never utter a sound twice in exactly the same fashion yourself, so that the same sounds vary in the way they impress the ear. Especially are sounds influenced by neighboring sounds. For example, the vowel in *back* does not sound exactly like the vowel in *bat*. The tongue, amazingly facile as it is, cannot move with sufficient rapidity or with sufficient precision to prevent the formation of unintentioned sounds. It is only in the case of an isolated sound or of an initial sound in a phrase that the tongue starts from a position of rest. As the tongue hurries from one position to another it takes perforce intermediate positions; and since each adjustment of the speech mechanism results in the production of a definite sound, there are speech sounds arising from these intermediate positions. These attendant sounds are called *glides*. Listen to the different varieties of l in the words *lily*, *little*, *wiggle*, *all*, *full*, *owl*, *ell*. Initial l is *followed* by a glide; medial l is

followed and *preceded* by a glide; final l *follows* a glide. In each case the sound of l is affected by the adjacent sounds, and it has a different sound each time because the glides are different.

No two people have organs of speech exactly alike, just as no two people have faces exactly alike, and therefore the adjustments which any two people make for the production of the same sound will necessarily vary somewhat. The reader should always bear this fact in mind in reading descriptions of sounds. It is well to accompany such readings by a study of one's own speech habits, by producing the sounds in question before a mirror.

In order to make the description of sounds more easily understood, diagrams have been used. The profile shows the adjustments of the lips, teeth, tongue, soft palate, and vocal cords. In the palatogram (used in describing **s**, **sh**, **l**, **r**) the shaded portion shows where the tongue touches the gums or the hard palate in the formation of the sounds.

These descriptions are of course for isolated sounds. But speech sounds seldom occur in isolation. During the utterance of a phrase the speech organs are in continuous and rapid motion. The reader should think of the organs of speech as in a continual state of change, moving now toward and now away from a given position, which is held only a fraction of a second.

DESCRIPTION OF CONSONANTS

Stops

Before the mirror sound **p**, **b**. The lips are completely closed, momentarily blocking the breath passage. The lips open suddenly and the air escapes with an explosive sound.

There are six of these sounds, — **p**, **b**; **t**, **d**; **k**, **g**, — and they are called *stops* or *plosives*.

There are three steps in the formation of a stop.

1. There must be a complete blockage of the breath passage.

2. There must be a sudden release of the blockage.

3. There must be an explosive escape of the breath stream.

If the blockage is not complete, the breath will issue continuously, not with an explosive puff. Sometimes the stoppage is made correctly, but there is no sudden release of the pressure. This is often the case with finals, as in *cat*, *lake*, *lip*. Then the sound seems to have been omitted. It is by the explosive escape of the breath that we recognize the sound.

Nasals

Before the mirror sound **m**. The lips are closed as for **b**; but the mouth passage is not completely blocked as for **b**, for the velum has been lowered, so that the breath stream escapes through the nose. You can demonstrate this by closing the nostrils with the fingers; the sound will cease, for the breath is completely stopped. If, when the lips are closed for **m**, you suddenly open them and raise the velum, you will form the sound **b**.

Such consonants are called nasals, because the air escapes through the nose. They may also be called continuants, as the breath issues in a continuous stream.

There are three nasal consonants in English, corresponding to the three pairs of stops. With the tongue in approximately the same position as for **d**, the nasal **n** is formed. To pronounce the final **d** in *and* one need only raise the velum and drop the tongue tip suddenly while sounding **n**.

With the same articulation as for **g** we form the nasal **ng**. Note that the digraph **ng** represents a *single* sound, — a sound having the nasal characteristic of **n** but formed in the **g** position. When a speaker says *doin* for *doing*, he is not "leaving off a **g**" but substituting **n** for the sister nasal **ng**.

Many speakers form these nasals carelessly, without completely blocking the passage of the breath outward through the mouth. Then the nasal consonants do not have the musical sound that they should have, but have an unpleasant twang or are scarcely audible. Neighboring vowels are likely to be nasalized, and the quality of the voice will be affected.

THE STOPS AND NASALS

PHONETIC SYMBOLS: [p], [b], [m] WEBSTER SYMBOLS: (p), (b), (m)

KEY WORDS: **pay, up; be, tub; me, comb**

[p]

The Obstruction *Complete*

Block the mouth completely by closing the lips. The teeth are slightly separated. The velum rises, thus closing the nasal passage. The tongue is neutral. The vocal cords do not vibrate.

The Release *Sudden*

Open the lips suddenly, so that the breath escapes with an explosive puff. For English there is generally a slight aspiration before the following vowel begins.

[p] is a voiceless bilabial stop, — a voiceless [b].

[b]

The Obstruction *Complete*

Block the mouth completely by closing the lips. The teeth are slightly separated. The velum rises, closing the nasal passage.

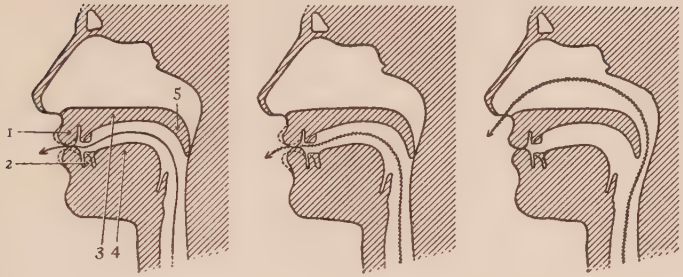


FIG. 12

1, lips; 2, teeth; 3, hard palate; 4, tongue; 5, soft palate.
Breath stream: ——, voiceless; ~~~, voiced

The tongue is neutral. The vocal cords vibrate.

The Release
Sudden

Open the lips suddenly, so that the breath escapes with an explosive puff.

[b] is a voiced bilabial stop, a voiced [p].

[m]

The Obstruction
Incomplete

Block the mouth completely by closing the lips. The teeth are slightly separated. The velum is lowered, opening the nasal passage. The tongue is neutral. The vocal cords vibrate.

The Release
Gradual

The breath escapes in a continuous stream through the nose.

[m] is a voiced bilabial nasal.

PHONETIC SYMBOLS: [t], [d], [n] WEBSTER SYMBOLS: (t), (d), (n)

KEY WORDS: **to**, stop**ped**; **do**, rob**bed**; **no**, **on**

[t]

The Obstruction
Complete

Block the mouth completely by raising the front edge of the tongue against

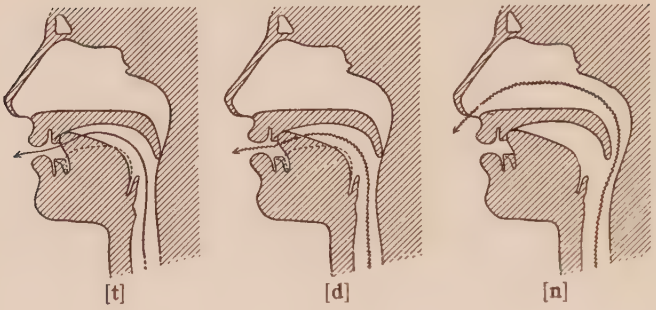


FIG. 13

the teeth ridge, or alveoli. The teeth are slightly separated. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Sudden

Drop the tongue suddenly, so that the air escapes with an explosive puff. For English there is generally a slight aspiration before the following vowel begins.

[t] is a voiceless alveolar stop, — a voiceless [d].

[d]

The Obstruction
Complete

Block the mouth completely by raising the front edge of the tongue against the teeth ridge, or alveoli. The teeth are slightly separated. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Sudden

Drop the tongue suddenly, so that the air escapes with an explosive puff.

[d] is a voiced alveolar stop, — a voiced [t].

[n]

The Obstruction
Incomplete

Block the mouth completely by raising the front edge of the tongue against the teeth ridge, or alveoli. The teeth are slightly separated. The velum is lowered, opening the nasal passage. The vocal cords vibrate.

The Release
Gradual

The breath escapes in a continuous stream through the nose.

[n] is a voiced alveolar nasal.

PHONETIC SYMBOLS: [k], [g], [ŋ] WEBSTER SYMBOLS: (k), (g), (ng)

KEY WORDS: **key, cow, back; go, bag; sing, sink**

[k]

The Obstruction
Complete

Block the mouth completely by raising the back of the tongue against the soft palate, or velum. The teeth are slightly separated. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Sudden

Drop the tongue suddenly, so that the air escapes with an explosive puff. For English there is generally a slight aspiration before the following vowel begins.

[k] is a voiceless velar stop, — a voiceless [g].

[g]

The Obstruction
Complete

Block the mouth completely by raising the back of the tongue against the soft palate, or velum. The teeth are slightly separated. The velum rises, closing the nasal passage. The vocal cords vibrate.

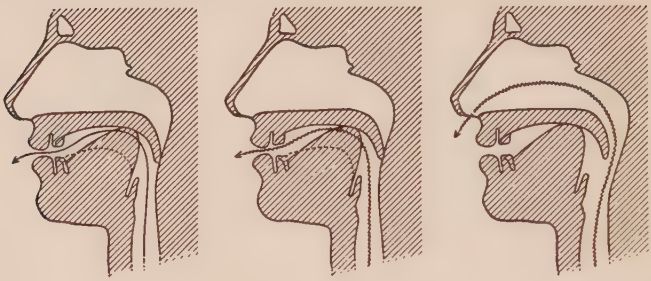


FIG. 14

The Release
Sudden

Drop the tongue suddenly, so that the breath escapes with an explosive puff.

[g] is a voiced velar stop, — a voiced [k].

[ŋ]

The Obstruction
Incomplete

Block the mouth completely by raising the back of the tongue against the soft palate, or velum. The teeth are slightly separated. The velum is lowered, opening the nasal passage. The vocal cords vibrate.

The Release
Gradual

The breath escapes in a continuous stream through the nose.

[ŋ] is a voiced velar nasal.

Fricatives

Before the mirror sound **f** and **v**. You will see that the upper teeth and the lower lip have formed a partial blockage, so that the breath stream, though not held back, rubs with some force against the obstructing organs. The sound that we recognize as **v** or **f**, according to whether the sound is voiced or not, arises from this rubbing, or friction, of the air against the obstruction. As the obstruction is not com-

plete, there is no sudden opening, and the breath stream escapes continuously, instead of with an explosive puff as do the stops. Compare the breath escape for **f** and **p** by holding a slip of paper before the lips.

The fricatives [1] are **f**, **v**, **s**, **z**; the two sounds of **th**; **sh** and the consonant in *azure*; **wh**, **w**, **y**, **h**, **l**, **r**.[2] It is the opinion of many that **ch** and **j** are to be considered close blends of two sounds; this is suggested by the spellings *match*, *badge*.

In studying fricatives it is especially important to note the shape and position of the channel through which the breath escapes. The object of the adjustments of the speech mechanism is the formation of this channel, upon which the characteristic sound of the consonant is largely dependent. The exact adjustments, therefore, will depend for each speaker upon the peculiarities of structure of his own speech mechanism.

THE FRICATIVES

PHONETIC SYMBOLS: [ʍ], [w] WEBSTER SYMBOLS: (hw), (w)

KEY WORDS: **why**; **wet**

[ʍ]

The Obstruction
Incomplete

Round the lips and raise the back of the tongue as for the vowel **u** in *truth*, but bring the lips much closer together, so that the breath passage is partially obstructed. The

[1] It is evident that *fricatives* are also *continuants*.

[2] There is a growing tendency to doubt the accuracy of this classification for the sounds **wh**, **w**, **y**, **h**, **l**, **r**. There is no doubt that **l** and **r** are sometimes vocalic in character, and it is the view of some persons that **w**, **y**, and **h** function rather as modifiers of vowels than as consonants.

teeth are parted. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Gradual

Force the breath out through the narrow opening between the lips so that it escapes in a continuous stream with faintly audible friction.[1]

[ʍ] is a voiceless bilabial fricative, — a voiceless [w].

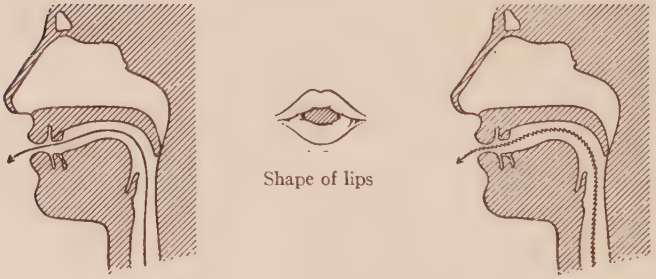


Fig. 15

[w] [2]

The Obstruction
Incomplete

Round the lips and raise the back of the tongue as in forming the vowel **u** in *truth*, but bring the lips much closer together, so that the breath passage is partially obstructed. The teeth are parted. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

Force the breath out through the narrow opening between the lips so that it escapes

[1] See note on page 72.

[2] [w] is classed also as semivowel, because of the very slight obstruction.

in a continuous stream with faintly audible friction.

[w] is a voiced bilabial fricative, — a voiced ʍ.

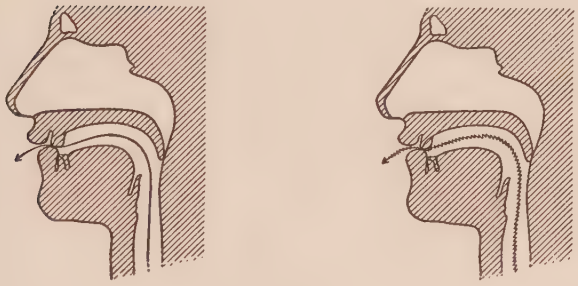


FIG. 16

PHONETIC SYMBOLS: [f], [v] WEBSTER SYMBOLS: (f), (v)

KEY WORDS: **foe, cough; vow, of**

[f]

The Obstruction
Incomplete

Place the lower lip lightly against the upper teeth. The tongue is neutral. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Gradual

Force the breath out through the crevices between the upper teeth and lower lip so that it escapes in a continuous stream with audible friction.

[f] is a voiceless labiodental fricative, — a voiceless [v].

[v]

The Obstruction
Incomplete

Place the lower lip lightly against the upper teeth. The tongue is neutral. The

velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

Force the breath out through the crevices between the upper teeth and lower lip so that it escapes in a continuous stream with audible friction.

[v] is a voiced labiodental fricative, — a voiced [f].

PHONETIC SYMBOLS: [θ], [ð] WEBSTER SYMBOLS: (th), (th)

KEY WORDS: **th**in, ba**th**; **th**is, ba**th**e

[θ]

The Obstruction
Incomplete

Place the front edge of the tongue against the inner surface of the upper front teeth so that the tip of the tongue is barely visible between the teeth. The lips are parted. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Gradual

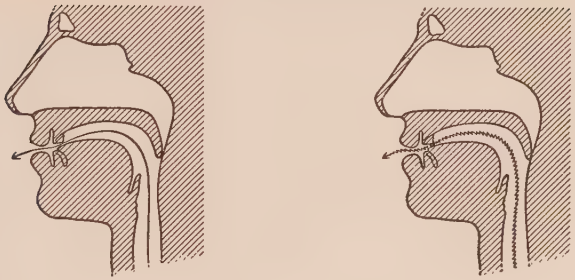
Force the breath out through the narrow slit between the tongue tip and the upper front teeth so that it escapes in a continuous stream with audible friction.

[θ] is a voiceless interdental fricative, — a voiceless [ð] (**th** in ***this***).

[ð]

The Obstruction
Incomplete

Place the front edge of the tongue against the inner surface of the upper front teeth so that the tip of the tongue is barely visible between the teeth. The lips are parted. The velum rises, closing the nasal passage. The vocal cords vibrate.



[θ] [ð]

FIG. 17

The Release
Gradual

Force the breath out through the narrow slit between the tongue tip and the upper front teeth so that it escapes in a continuous stream with audible friction.

[ð] is a voiced interdental fricative, — a voiced [θ] (**th** in ***thin***).

PHONETIC SYMBOLS: [s], [z] WEBSTER SYMBOLS: (s), (z)

KEY WORDS: **so, miss, scene**; zebra, **is**

[s]

The Obstruction
Incomplete

Bring the sides of the tongue against the upper side teeth, forming a narrow groove down the middle of the tongue. The tongue tip may be raised toward the gums back of the front teeth, or lowered,[1] touching the inner surface of the lower front teeth. The lips are parted. The lower teeth approach the upper, intercepting the breath. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

[1] Those who form **s** with the tongue tip down should be careful to use sufficient tongue pressure, or the **s** may be lisped.

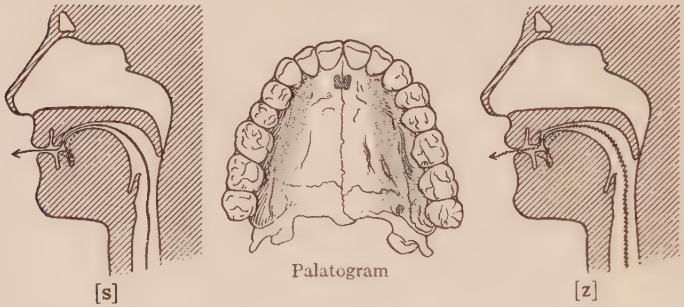


FIG. 18

The Release
Gradual

Force the breath in a fine stream through the narrow central groove of the tongue so that it strikes against the lower teeth and escapes between the teeth in a continuous stream with audible friction.

[s] is a voiceless alveolar fricative, — a voiceless [z].

[z]

The Obstruction
Incomplete

Bring the sides of the tongue against the upper side teeth, forming a narrow groove down the middle of the tongue. The tongue tip may be raised toward the gums back of the front teeth, or lowered, touching the inner surface of the lower front teeth. The lips are parted. The lower teeth approach the upper, intercepting the breath. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

Force the breath in a fine stream through the narrow central groove of the tongue so that it strikes against the lower teeth and

escapes between the teeth in a continuous stream with audible friction.

[z] is a voiced alveolar fricative, — a voiced [s].

PHONETIC SYMBOLS: [ʃ], [ʒ] WEBSTER SYMBOLS: (sh), (zh)

KEY WORDS: **she, nation, ash**; **azure, vision, rouge**

[ʃ]

The Obstruction
Incomplete

Bring the sides of the tongue into contact with the upper side teeth, but not so far forward as for [s], so that a broader groove is formed; draw back the tongue slightly so that the stream of breath is directed to a point lower than for [s]. The lips are slightly protruded. The teeth are almost closed. The velum rises, closing the nasal passage. The vocal cords do not vibrate.

The Release
Gradual

Force the breath through the rather wide central groove of the tongue so that it escapes between the front teeth in a continuous stream with audible friction.

[ʃ] is a voiceless alveolar fricative, — a voiced [ʒ] (**z** in *azure*).

[ʒ]

The Obstruction
Incomplete

Bring the sides of the tongue into contact with the upper side teeth, but not so far forward as for [z], so that a broader groove is formed; draw back the tongue slightly so that the stream of breath is directed to a point lower than for [z]. The lips are slightly protruded. The teeth are

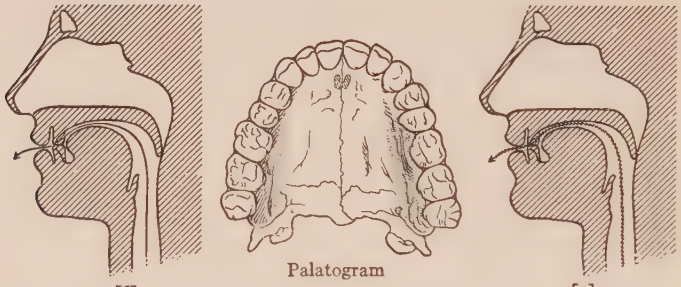


FIG. 19

almost closed. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

Force the breath through the rather broad groove in the middle of the tongue so that it escapes between the front teeth in a continuous stream with audible friction.

[ʒ] is a voiced alveolar fricative, — a voiced [ʃ].

PHONETIC SYMBOL: [r] WEBSTER SYMBOL: (r)

KEY WORDS: rest, write

[r]

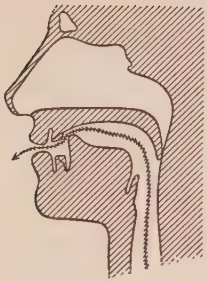
The Obstruction
Incomplete

Place the sides of the tongue against the upper back teeth, raising the tip toward the teeth ridge, without, however, actually touching it. The lips are slightly parted; they should not be rounded. The teeth are slightly open. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

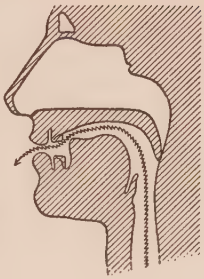
Force the breath out over the tongue tip so that it escapes in a continuous stream with slight audible friction.

[r] is a voiced alveolar fricative.



Palatogram

[r] (initial)



[ɹ] (final)

FIG. 20

PHONETIC SYMBOL: [ɹ] WEBSTER SYMBOL: (r)

KEY WORDS: are, hard

[ɹ]

When **r** is final or followed by a consonant, the tongue is drawn back slightly, and the tip is not quite as high as for initial **r**.

Final **r** [ɹ] is generally preceded by a more or less noticeable neutral vowel (the vowel **a** in *sof**a***). In some parts of the country there is a tendency to curl the tongue tip and pull the whole tongue back in the mouth. This gives a peculiar heavy, muffled sound which affects the whole word. It is a question whether final **r** [ɹ], especially the type made with retracted tongue, so often found in the Middle West, is not in reality a vowel. The tongue tip really offers no obstruction to the breath stream, but merely modifies the shape of the resonance chamber.

NOTE. Trilled **r** is made by tapping the tongue tip in rapid succession against the teeth or teeth ridge. This form is seldom heard in speech in the United States.

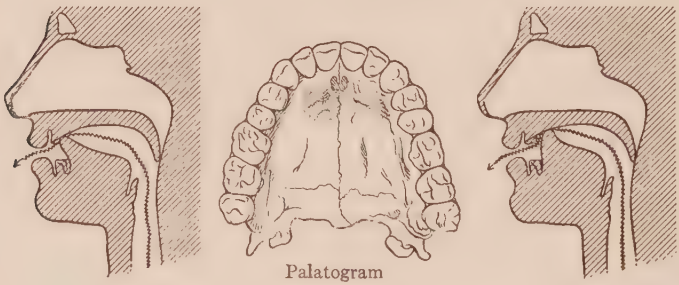
PHONETIC SYMBOL: [l] WEBSTER SYMBOL: (l)

KEY WORDS: lie, lily, all

[l]

The Obstruction
Incomplete

Raise the tip of the tongue against the teeth ridge, drawing in the sides so that



[l] (initial) Palatogram [l] (final)

FIG. 21

there is a channel on one or both sides between the tongue and the cheek. The lips are parted. The teeth are slightly parted. The velum rises, closing the nasal passage. The vocal cords vibrate.

The Release
Gradual

Force the breath out over the sides [1] of the tongue so that it escapes in a continuous stream with audible friction.

[l] is a voiced alveolar lateral fricative.

[1] The air may escape at one or both sides of the tongue.

NOTE. When [l] is final, the tongue (always somewhat concave for English [l]) becomes more concave, and the tip touches the teeth ridge slightly farther back than for initial [l].

Final **l** is also preceded by a more or less audible neutral vowel (the vowel sound of *a* in *sof**a***). Final [l] varies slightly in quality according to the vowel which precedes it. Compare the sound of final [l] in *fill*, *full*; *feel*, *fool*; *fail*, *fall*; *meal*, *mule*. When the tongue is strongly concave in shape and the contact is back of the teeth ridge, a dull, muffled sound results, which often colors unpleasantly the whole word in which the sound occurs; or there may be no contact whatever, and the sound may take on the character of a vowel.

PHONETIC SYMBOL: [j] WEBSTER SYMBOL: (y)

KEY WORDS: yes, yard

[j]

The Obstruction
Incomplete

Raise the front of the tongue against the hard palate, leaving a groove in the middle; the tongue tip points downward toward the lower teeth. The lips are parted. The teeth are slightly separated. The velum is raised, closing the nasal passage. The vocal cords do not vibrate.

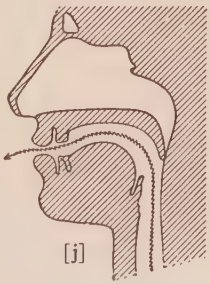


FIG. 22

The Release
Gradual

Force the breath through the groove in the middle of the tongue so that it escapes between the front teeth in a continuous stream with faintly audible friction.

[j] is a voiced palatal fricative[1]; it has no voiceless counterpart in English.[2]

PHONETIC SYMBOL: [h] WEBSTER SYMBOL: (h)

KEY WORDS: **hand, he**

[h]

The Obstruction
Incomplete

[h] is merely breath, modified by the shape of the mouth for the utterance of the following vowel. The velum is raised, closing the nasal passage. The vocal cords do not vibrate.

The Release
Gradual

Force the breath through the mouth shaped for the following vowel, so that the air escapes in a continuous stream with audible friction.

[h] is a voiceless [3] glottal fricative; it has no voiced counterpart in English.

II. VOWELS

In the formation of vowels the lips, teeth, and tongue do not form obstructions which impede the breath as it issues from the mouth, as in the case of consonants. They merely

[1] [j] is classified also as semivowel, because of the very slight obstruction.

[2] There are a few English words (for instance, *hue* and *huge*) in which the initial sound may be considered as the voiceless form of the initial sound in *you*.

[3] The above is perhaps the simplest description of the sound [h]. Varying views are held as to the real nature of the sound. Some writers consider [h] simply the voiceless form of the following vowel. Others consider it a characteristic beginning of a vowel.

shape the mouth cavity, which acts as a resonating chamber for speech sound. The quality, or color, of a vowel (that is, its characteristic sound, by which we distinguish one vowel from another, as the vowel in *sea* from that in *say*, the vowel in *too* from that in *toe*, and the vowel in *tea* from that in *tie*) is determined largely by the shape of the resonating chamber (see page 61).

Because of our unphonetic spelling we often fail to hear sounds as they really are. Each one of the vowel letters stands for several vowel sounds. The *letter u*, for instance, stands for different vowel sounds in

truth	put	burn	bury
asylum	cut	busy	cute

But the *sound* of **u** in *truth* is represented in different ways in

true truth soup food tomb shoe crew fruit

We are accustomed to think that things which *look* alike *are* alike, and that things which *look* unlike *are* unlike. At first glance it would seem as if the eight words containing the letter *u* should have identical vowel sounds. Likewise, at first glance it would seem as if the eight words containing eight different vowel characters should contain eight different vowel sounds.

Study the first list of words, beginning with *truth*. Are there any words in the list in which the vowel sounds have what might be called a family resemblance?

We need only to sound them to realize that the vowels in

busy bury burn put

have no family resemblance to one another. They do not even show a relationship to the vowel in *cute*, which is the same as the name of the *letter u*.

It is perhaps not quite so evident that the vowel in *cut* also has no family resemblance to the vowel in *cute*; for have we not been taught that the vowel in *cut* has the short sound and the vowel in *cute* the long sound of ***u***? Why do we choose those two sounds from the eight sounds represented by the letter *u* and disregard the others? Why do we not, for instance, say that the vowel in *busy* is the short sound of the vowel in *truth*, or that the vowel in *bury* is the short sound of the vowel in *burn*?

The reason why the sounds of ***u*** in *cute* and *cut* have been singled out from the other ***u*** words and called the long and short sounds of ***u*** has nothing to do with any inherent relation between the two sounds as they now exist. The following is, however, true: in words like *cute* the vowel "says its own name"; in words like *cut* the vowel occurs which is most frequently represented by the letter *u*. But should we call them long and short vowels?

The terms *long* and *short* are terms of *duration*. They do not, therefore, fittingly describe the relation between these sounds. Whether a sound should be called long or short should depend upon its duration, — whether or not it is prolonged in the word.

Once upon a time, as a matter of fact, the character *u* did really stand for two vowels which differed decidedly in length. They were approximately the vowels that occur in *truth* and *put*. But *ū* and *ŭ* stand for sounds which really have no resemblance to each other, as have the vowels in *truth* and *put*; for the vowel in *cūte* is a diphthong (rather well represented by the spelling in *feud*), and the vowel in *cŭt* is a simple sound with a very different quality. We have taken some designations that once described certain related sounds fairly well, and have applied them to

entirely unrelated sounds, the difference between which is not at all a difference in length.

When you say that ***u*** in *cute* is long and ***u*** in *cut* is short, you are not using the terms *long* and *short* in their usual sense of a measure of duration or distance. Through long use you have associated the word *long* with the sign ¯ and the word *short* with ˘. But *cūte* and *cŭt* do not represent two different degrees of prolongation of the same vowel sound. They represent two entirely different qualities, as unlike as the vowels in *few* and *son* or *beauty* and *couple.* And each of these different vowel *qualities* may be either lengthened or shortened, — in other words, may be *long* or *short.*

According to the popular meaning of *long* and *short* when applied to vowels, words containing the letter *u* would be classified as follows:

Long	*Short*
cute	cut
cue	cub
cube	cuff
future	funny
useful	us
unite	bud
unit	dug

But if you sound these words, listening to the degree of prolongation of the vowel, you will notice that the vowels in the *cute* list differ in length, as do also those in the *cut* list. Also, the same vowel in the same word may vary appreciably in length, or duration, according to the mood of the speaker or the thought to be conveyed.

Ask someone to repeat with equal emphasis the following words, and note the length of the vowels: *cud, cutting*;

cud, unite; *cube, cute*; *cud, cuticle*. You will find that some of the vowels usually called short are really quite as long as, if not longer than, some of those usually called long.

According to the meaning of *long* and *short* as measures of duration, these words must therefore be rearranged in pairs as follows:

Longer	*Shorter*
cube	cubic
cue	cute
use	useful
unit	unite
future	futurity
cud	cut
cub	cup
bud	but
dug	duck
fun	funny

VOWEL QUALITY

It is clear, then, that we have been in the habit of using the terms *long* and *short* to express, not a difference in *duration*, but a difference in *quality*. The *length* of a vowel depends upon the fraction of a second which it takes to utter it; its *quality* depends mainly upon the shape of the resonance chamber.

The shape of the resonating chamber for vowels is molded by the action of the lips (and jaw), the tongue, and the soft palate.

1. The lips may be open wide (**a** in *father*); partly open (**a** in *cat*); spread (**i** in *machine*); rounded (**u** in *rule*).

2. The tongue may be almost flat in the mouth as for **a** (*father*); the front may be raised as for **i** (*machine*); the back may be raised as for **u** (*truth*).

3. The lips and the tongue may be tense as for i in *machine*, or lax as for i in *bit*.

4. The soft palate may rise or fall, closing or opening the nasal passage. In the formation of French nasal vowels

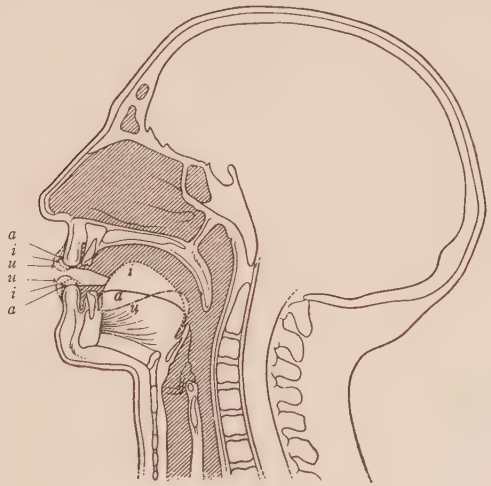


FIG. 23

the soft palate drops and the breath stream escapes, issuing partly through the mouth and partly through the nose.

The shape of the resonating chamber, and therefore the quality of the vowel, will depend mainly upon the shape of the lips, upon the height of the tongue (that is, the position of its highest point), and upon the tenseness of the lips and tongue.

This brings us to a new classification of vowels, — a classification based on family relationship, that is, a resemblance in the *sounds* of vowels caused by very slight difference in articulation.[1] Before the mirror sound successively i as in

[1] See page 95.

it, police, ice. From the point of view of family resemblance, is the vowel in *it* related to the vowel in *ice* or to the vowel in *police*?

As a matter of fact the **i** in *ice* is not an elementary vowel but a diphthong formed by the combination of two vowels, approximately **a** in *father* and **i** in *it*. Note that the diphthong **ai** is correctly represented in the spelling of *aisle*.

By slightly relaxing the lips and tongue in the position for **i** in *machine*, thus enlarging slightly the resonance chamber, you may form **i** in *it*. Therefore the vowel in *it* should be paired with the vowel in *police* and not with the vowel in *ice*.

Again, if you base the relationship between the vowels upon the sounds and not upon the letters, you will see that the vowel in *mate* should be paired with the vowel in *met* rather than with that in *mat*. In like manner the vowels **u** in *truth* and *put* may be paired.

If you base your classification on the *sound* and not on the *letter*, in which of these groups are the vowels correctly paired?

mate	mat	*or*	mate	met
see	set	*or*	see	sit
ice	it	*or*	ease	it
nose	cloth	*or*	law	cloth
cute	cut	*or*	truth	put

DESCRIPTION OF VOWEL SOUNDS

In studying the formation of the vowels we must take into consideration

1. The shape of the lips.

2. The shape of the tongue, that is, the position of the highest point.

Although there are many variations of the position of tongue and lips, you will notice that certain lip positions always tend to be associated with certain tongue positions. When the tongue is raised in front as for **i** (*machine*), the lips are spread; when the back of the tongue is raised for **u** (*truth*), the lips are rounded.

3. The degree of tenseness of the tongue and lips.

Generally, when the tongue is tense, the lips are also tense. Consequently we can get some idea of the tenseness of the tongue by observing the lips.

Vowels are always voiced, and in English there are no nasal vowels. Therefore, in the classification of vowels, we omit reference to the action of the vocal cords and the velum.

One characteristic tendency of English vowels is due to the instability of the tongue, which does not hold the same position throughout the entire utterance of the vowel, but moves with a rapidly gliding motion. As a result vowels, especially when prolonged, tend to become diphthongal. In the word *day*, for example, the tongue rises slightly at the end of the vowel, so that the closing sound is **i** in *it*. Likewise in *low* the closing sound is **u** as in *put*. Sound the words *day* and *low* emphatically before the mirror. You will notice a change in the shape of the lips toward the end of each vowel. In these words and in many others of this type, Americans diphthongize the final vowel: *go*, *do*, *see*, *play*, *they*, *key*. This is especially noticeable when vowels are prolonged.

The following descriptions of vowel sounds are comparative rather than absolute. For the convenience of readers who are not familiar with the phonetic alphabet the Webster system of respelling is also given.

PHONETIC SYMBOL: [i] WEBSTER SYMBOL: (ē)

KEY WORDS: see, machine, key, scene

PHONETIC SYMBOL: [ɪ] WEBSTER SYMBOL: (ĭ)

KEY WORDS: fit, guilt, hymn

The *lips* are spread and stretched slightly as for a smile. The *tip* of the *tongue* rests against the lower front teeth. The *front* of the *tongue* is arched toward the hard palate.

For [i] (ē)[1] the *lips* and *tongue* are tense; for [ɪ] (ĭ) they are lax. This relaxation brings about a slight lowering of the tongue and opening of the lips. [i] (ē) might be called the tense form of [ɪ] (ĭ). There is an unstressed form of [ɪ] (ĭ) as in *only*, *coming*, in which the tongue and lips are even more lax than for [ɪ]. Compare the vowels in *pity*; in *finish*.

PHONETIC SYMBOL: [e] WEBSTER SYMBOL: (ā)

KEY WORDS: fete, mate, steak, neigh

PHONETIC SYMBOL: [ɛ] WEBSTER SYMBOL: (ĕ)

KEY WORDS: met, bread, friend

The lips are parted but not stretched so tensely as for [i] (ē).

The tip of the tongue is against the lower teeth. The front of the tongue rises toward the hard palate to a position not quite so high or so far forward as for [i] (ē).

For [e] (ā) the lips and teeth are tense. When the vowel is prolonged as in *café*, *neigh*, *braid*, *day*, it is often diphthongized. The spelling in the last three words suggests the diphthongal character. In fact, if we spelled *neigh* n-e-i, it would be phonetically spelled.

[1] The letter in brackets is the symbol used in the International Phonetic Alphabet; the letter in parentheses, the symbol used in Webster's Dictionary.

The lips and tongue are lax for [ɛ] (ĕ). [e] (ā) might be called the tense form of [ɛ] (ĕ).

PHONETIC SYMBOL: [æ] WEBSTER SYMBOL: (ă)

KEY WORDS: cat, lap

PHONETIC SYMBOL: [ɛ:] WEBSTER SYMBOL: (â)

KEY WORDS: care, fair

The lips are parted, more open than for [ɛ] (ĕ).

The tip of the tongue rests against the lower teeth. The front of the tongue is arched toward the hard palate, a little farther back and lower than for [ɛ] (ĕ).

The lips and tongue are lax for [æ] (ă).

The corresponding vowel with lips and tongue tense is used only before **r**, as in *bear*, *fair*, *pare*. There is a good deal of variation in the vowel used in these words. Some Americans use [ɛ] (ĕ) (as in *get*), or [æ] (ă) (as in *mat*), or [e] (ā) (as in *gate*).

Does your pronunciation of *fairy* rime with *merry*? with *marry*? If with neither, do you give the vowel the value of *a* in *make*? If not, you probably use the tense form [ɛ:] (â) described above.

PHONETIC SYMBOL: [ɑ] WEBSTER SYMBOL: (ä)

KEY WORDS: father, heart

PHONETIC SYMBOL: [a] WEBSTER SYMBOL: (à)

KEY WORDS: ask, fast

The lips are parted, opening the mouth more widely than for other vowels.

The tongue tip rests against the lower teeth. The tongue is almost flat, the highest point being near the middle.

The lips and tongue are lax for [ɑ] (ä).

With lips and tongue tense, and with the highest position of the tongue somewhat higher and farther forward than in [ɑ] (ä), the so-called "refined **a**" is formed, as used by some speakers in ***ask***, ***pass***, ***aunt***.

PHONETIC SYMBOL: [u] WEBSTER SYMBOL: (o͞o)

KEY WORDS: **t**r**ue**, f**oo**d, sh**oe**

PHONETIC SYMBOL: [ʊ] WEBSTER SYMBOL: (o͝o)

KEY WORDS: p**u**t, f**oo**t, sh**ou**ld

The lips are rather closely rounded.

The whole tongue is slightly drawn back.

The back of the tongue is raised toward the soft palate.

For [u] (o͞o) the lips and tongue are tense; for [ʊ] (o͝o) the lips and tongue are lax. This relaxation brings about a slight lowering of the tongue and opening of the mouth.

PHONETIC SYMBOL: [o] WEBSTER SYMBOL: (ō)

KEY WORDS: st**o**ne, l**ow**, s**ew**, b**oa**t, w**oe**, n**o**te

The lips are rounded but not so closely as for [u] (o͞o).

The whole tongue is somewhat drawn back.

The back of the tongue is raised toward the soft palate, but not so far back as for [u] (o͞o).

The lips and tongue are tense.

When the vowel is prolonged as in ***go***, ***toad***, it is often diphthongized, the end of the vowel being like **u** in ***put***. In a few words such as ***soul***, ***shoulder***, the spelling suggests this diphthongal character. For the sake of simplicity the symbol [o] is used here to represent either the pure or the diphthongal form of the vowel.

PHONETIC SYMBOL: [ɔː] WEBSTER SYMBOL: (ô)

KEY WORDS: saw, ball, caught

PHONETIC SYMBOL: [ɔ] WEBSTER SYMBOL: (ŏ)[1]

KEY WORDS: loss, soft

The lips are open, but not so widely as for [ɑ] (ä).

The corners of the slightly rounded lips are drawn together.

The tongue is pulled back somewhat, the highest point a little farther back than for [ɑ] (ä).

The lips and tongue are tense for [ɔː] (ô). For [ɔ] (ŏ) the lips and tongue are lax. This relaxation brings about a slightly different tongue position and a wider mouth opening.

There is much variation in the way speakers pronounce words of this type: *not, spot, top*; *doll, on*; *soft, oft, loss*; *hog, dog, log*; *watch, wash.*

Do you use the same vowel sound in each of the words *hog, dog, log*? If so, is it the same as the vowel sound that you use in pronouncing *soft, oft, loss*? Which vowel sound do you use in *not, spot, odd*? Is it the same as the sound that you use in *soft, oft, loss*, or do you use the sound of *a* in *father*? Do you use the vowel sound in *saw, law, jaw*, in any of the above words?

There are speakers who use approximately the same vowel sound in all the words in these groups: *not, stop, top*; *doll, on*; *soft, oft, loss*; *hog, dog, log*; *watch, wash.* Other speakers use [ɑ] (ä) in some of these words, [ɔ] (ŏ) in others, and [ɔː] (ô) in still others. Some speakers never

[1] The Webster symbol (ŏ) rather than (ŏ) is used as the equivalent of [ɔ], because of the ambiguity of (ŏ). In words like *odd, not*, containing the so-called "short sound of *o*" many speakers use a vowel more or less similar to [ɑ] (ä). The symbol [ɔ] never stands for the latter sound.

use [ɔ] (ô) in such words as *not, odd, spot*; they use [ɑ] (ä) instead.

Undoubtedly the failure of readers to interpret correctly the respellings in the dictionaries is, in part at least, responsible for these inconsistencies. The symbol ŏ we find especially likely to be misunderstood. If you wish to know what this symbol stands for, read the phonetic introduction to Webster's Dictionary.[1] You will see that the symbol ŏ stands for a sound more like [ɔ:] (ô), as in *saw*, than like [ɑ] (ä) in *father*. Yet ŏ is frequently considered as representing a sound similar to the sound of [ɑ] (ä) in *father*, possibly because the key words given, *not, odd*, are very commonly pronounced in America with the vowel [ɑ] (ä).

PHONETIC SYMBOL: [ʌ] WEBSTER SYMBOL: (ŭ)

KEY WORDS: cup, come, touch, blood

PHONETIC SYMBOL: [ə] WEBSTER SYMBOLS: (a), (ă), (ĕ), (ĕ), (ŏ), (ŭ)

KEY WORDS: sofa, account, violence, later, connect, sirup

The lips are slightly open, with the corners drawn together.

The tip of the tongue is against the lower teeth.

The highest point of the tongue is slightly higher and farther back than for [ɑ] (ä).

The lips and tongue are lax.

For [ə] (ŭ) the tongue and lip position is approximately the same as for [ʌ] (ŭ), but there is less tension of lips and tongue.

[1] Webster's New International Dictionary, 1925 edition. A Guide to Pronunciation, paragraph 204.

You may at first have difficulty in distinguishing between these two sounds. If you sound the vowels in *the*[1] *cup* successively, you may be able to recognize the difference. The vowel in *cup* is stressed, but that in *the* is unstressed. This explains the difference between these two sounds.

PHONETIC SYMBOL: [ə] WEBSTER SYMBOL: (û)

KEY WORDS: **her, sir, fur, word, heard**

This sound [ə] (û) is heard only in words in whose spelling *r* is final or is followed by a consonant. Speakers who "drop" final *r* do not use this sound, but use instead a sound somewhat resembling [ʌ] (ŭ).

The quality of the sound [ə] (û) differs noticeably in the speech of different persons. Some speakers form the sound with tongue and lips in somewhat the same positions as for [ʌ] (ŭ), but with muscles more tense. Others, as they form the vowel, retract the tongue and raise the tip for the final **r**. We hear then no sound of final **r** as separate from the vowel, but a single sound, a vowel which is colored with the peculiar quality of final **r**. This is the vowel heard so frequently in the Middle West in such words as *her*, *sir*, *fur*, etc.

DIPHTHONGS

A diphthong is a combination of two vowel sounds in the same syllable. This must be distinguished from a digraph, which is a combination of two letters standing for the same sound. If you will repeat slowly the sounds represented by

[1] The reader will of course not confuse the above pronunciation of *the* with *thee*, for the latter pronunciation occurs only before a vowel or when for some reason it is emphasized.

ai in ***aisle*** and ***said***, respectively, you will perceive that there are two distinct vowel sounds in ***aisle***, as indicated by the spelling, whereas in ***said*** the same letters stand for one simple sound (the vowel in ***bed***). The diphthongs in ***aisle***, ***house***, ***noise***, are falling diphthongs; that is, the first component is more stressed and is longer than the second.

PHONETIC SYMBOL: [aɪ] WEBSTER SYMBOL: (ī)

KEY WORDS: **aisle, kind, my, pie**

Shape the lips and place the tongue as for [a] (ȧ); then partly close the lips and bring the tongue up to the position for [ɪ] (ĭ).

PHONETIC SYMBOL: [aʊ] WEBSTER SYMBOL: (ou)

KEY WORDS: **house, how, bough**

Shape the lips and place the tongue in about the position for [ɑ] (ä); then round the lips and raise and retract the tongue as for [ʊ] (o͝o). Some speakers begin with the sound [æ] (ă). This is a dialect sound and should be avoided.

PHONETIC SYMBOL: [ɔɪ] WEBSTER SYMBOL: (oi)

KEY WORDS: **boil, boy, voice**

Retract and raise the tongue as for open [ɔ] (o̭); then partly close and spread the lips and raise the front of the tongue as for [ɪ] (ĭ).

PHONETIC SYMBOL: [ju][1] WEBSTER SYMBOL: (ū)

KEY WORDS: **music, few, feud, pure**

The diphthong is a rising diphthong; it begins with unstressed [j] (y) and ends with [u] (o͞o), which is slightly stressed.

[1] Some writers feel that [iu] or [ɪu] represents the sound more accurately.

VOWEL LENGTH

The customary division of English vowels into short and long vowels which is found in many grammars and dictionaries is not only inaccurate but misleading, for vowel *length* has been confused with vowel *quality*. As we have seen (pp. 96–98), vowel sounds actually do differ in length. While these differences are very slight and are often almost imperceptible, if they are not observed the whole speech will have a peculiarly unfamiliar effect. The actual length of time during which sounds may be prolonged will depend, of course, primarily upon the rapidity with which the speech is uttered, the emphasis on the word, and the speech habits of the speaker. We can treat sound length, therefore, only from a comparative, not from an absolute, standpoint.

For practical purposes we recognize four definite vowel lengths for stressed syllables in English:

VERY LONG. bee, true, go, saw.
LONG. beet, beaded, truth, goat, sauce, bad.
HALF LONG. beating, ghostly, saucer, badly, bat.
SHORT. batter, couple, better, missing.

1. The length of a vowel will depend on whether it is in a *stressed* syllable or in an unstressed syllable; the vowel **a** is longer in *art* than in *artistic*. Compare vowel lengths of **i** in *dip* and *diploma*; of **o** in *oh* and *obey*. Unstressed vowels are always short.

2. The length of a vowel in a stressed syllable will depend on whether or not it is followed by an unstressed syllable; compare the vowel length in *bit* and *bitter*, *car* and *carnage*, *stock* and *stocking*, *sun* and *sunny*.

3. The length of a vowel in a stressed syllable depends on the following sound. It is longest if final, as

in *bee*, *too*, *toe*, or if followed by a voiced consonant, as in *bead*, *dame*, *toad*. It is not so long if followed by a voiceless consonant, as in *beat*, *date*, *toast*. Compare *bid*, *bit*; *cub*, *cup*; *bed*, *bet*; *day*, *date*; *toe*, *toast*.

4. In general a tense vowel is longer than a lax vowel when used under the same circumstances. For example, the vowel in *bead* is longer than that in *bed*; the vowel in *food* is longer than that in *foot*.

The following are examples of varying vowel length as it occurs in monosyllables and in the stressed syllables of polysyllables.

TENSE VOWELS

Very Long		*Long*		*Half Long*
may	maid	mate	maiden	mating
bee	bead	beat	beading	beating
row	rose	rote	rosy	rotate
paw	pause	sauce	pausing	saucer
coo	cool	coop	cooling	cooper

LAX VOWELS

Long	*Half Long*		*Short*
bad	bat	badly	batter
bed	bet	bedding	better
bid	bit	bidding	bitter
fog	flock	foggy	flocking
cud	cup	cuddle	couple

Just as the exact shade of vowel color used in a word will vary with the individual speech habits of each speaker, so will vowel length be variable. Some speakers habitually drawl out their vowels; others cut them short. A vowel that would, under ordinary circumstances, be quite short may, for the sake of emphasis, become quite long. Note,

for instance, the varying vowel lengths in the following exclamation, expressing different states of mind:

APPROBATION. *Good* for you.
REVENGE. Good enough *for* you.
FRIENDLY INTEREST. Good for *you.*

Thus you see that vowels show distinct differences in duration, and that in using the terms *long* and *short* to express differences in quality (for example, to express the relation between the vowels in *is* and *ice*) you have been using to denote *quality* a term of measurement which should be left to denote *duration.*

STRESS

When you utter words of more than one syllable, such as *little, beautiful, syllable,* you will notice that one syllable sounds louder than the others. It is pronounced with stronger breath impulse and is often, but not always, higher in pitch. Such a syllable is said to be stressed or accented. Likewise, in a phrase or sentence there will be words more highly stressed than others.

The question of stress in English words is somewhat confusing. At first sight it might seem as if we followed no general custom. Compare the words *im'age, imag'ine, imagina'tion.* Here we have a word with two derivatives, with the stress falling in three different places. To understand this lack of uniformity in stress we must remember the mixed composition of the English language. The foundation of English is Anglo-Saxon, a branch of the Germanic languages; but at the time of the Norman Conquest and later many French words were incorporated into English. We have therefore two opposing tendencies in the placing

of stress: that of the German, to stress the chief syllable of the word, which is generally the first; and that of the French, to throw the stress toward the end of the word. The first tendency is the stronger; so we find words of French origin which have gradually changed to conform to the English habit of stress, — for example, *balcony*, *barrier*, *danger*, *second*.

This tendency toward throwing the stress forward can be observed at work at the present time. The word *automobile* is a good example of this tendency. The stress was originally on the last syllable, but may now be heard on the third or the first: *automobile'*, *automo'bile*, *au'tomobile*. Other words which show this inclination to shift the stress forward are *research'*, *adult'*, *recess'*, *detail'*.

A few suggestions for the placing of stress may be given. These are not, however, invariable rules:

1. Words of two or three syllables are accented on the first syllable unless it is a prefix or the less important part of a derivative or compound. Examples: *hap'py*, *li'brary*, *fol'lowing*, *sat'isfy*; but *intense'*, *prefer'*, *alone'*, *contain'*, *apply'*, *away'*, *unknown'*, *New York'*.

2. Some words which serve as two parts of speech (either as noun or as verb) have the stress upon the first syllable if they are used as nouns, and on the last if they are used as verbs. Examples are *sub'ject* (noun), *subject'* (verb); *con'duct* (noun), *conduct'* (verb); *reb'el* (noun), *rebel'* (verb). *Address* is added to this group of words by some speakers, who stress the first syllable when it is a noun. For example, "What is your *ad'dress*"? This usage, however, is not sanctioned by the dictionaries.

3. Words of three or more syllables are likely to have, besides the principal stress, a secondary stress, as in *ven''tila'tion*, *deter''mina'tion*, *respon''sibil'ity*. In the case of very long words there may be more than one secondary accent, as in *un''reli''abil'ity*, *ir''respon''sibil'ity*.

4. Notice that in counting we say *thir'teen*, *four'teen*, *twenty-one'*, *forty-three'*, while in naming a number we divide the stress, throwing it upon each member: *thir'teen'*, *four'teen'*, *twen'ty-one'*, *for'ty-three'*.

Sentence Melody

Ask someone to recite a few lines of a poem. Listen to the way in which the voice rises and falls. Some speakers

Fig. 24

These curves show three types of cadence which were used by the same speaker when saying "good-by." They were obtained from phonophotographs made by Dr. Milton Metfessel

use a great deal of pitch variation, while others use very little. This rise and fall of the voice is called intonation.

Ask to have the verse repeated. Notice the relation between pitch and stress; between pitch and syllable length.

High stress is usually accompanied by change of pitch, — often a higher but sometimes a lower pitch. The stressed vowel is also usually prolonged.

How do you say "good-by"?

These various attributes of speech sound — quality, duration, stress, and pitch — make up the melody of speech. It is by the speech melody, often as much as by the words used, that we make our meaning clear.

You can train yourself to notice the way in which the voice rises and falls in the speech of the people around you. You can ascertain in the speech of any speaker what is the highest and the lowest pitch that he uses, and then you can find the medium pitch, which you will usually find to be the pitch most often used by the person under observation. You will find it very interesting to notice how his voice rises and falls constantly between these limits, and how he gives expression to his thoughts and feelings by means of this varying pitch.

CHAPTER V

THE FOREIGN CHILD'S SPEECH DIFFICULTIES

This chapter is offered as an aid to the teacher of little children of foreign parentage. Learning to read is a task of appalling difficulties to children who speak a foreign language at home. They have all the difficulties which English-speaking children have in learning to read. In addition to that they have to learn the English language.

How often we see a child standing before a reading chart staring mutely at the crooked black marks before him. Even to the *English*-speaking child they offer an almost unfathomable mystery at first. How unintelligible they must be to a child who does not understand the language! His English-speaking classmates have had four or five years' experience in hearing and speaking English before they approach this task. What wonder that they readily outstrip their foreign-speaking classmates! Only the superior and determined surmount the obstacles readily, unless they have the assistance of one who understands their problem.

The little devices which are usually successful with the English-speaking child fail with a child who does not understand the language. The teacher may pronounce the word for him distinctly and repeatedly, but the spoken word means little more than the written symbol. If he has heard the word spoken at all, he has probably heard it mispronounced and therefore does not recognize it. The teacher may explain and illustrate its meaning, but the child only imperfectly comprehends her explanation.

The ability to understand a language always precedes the ability to speak it. We learn our mother tongue by imitation, and by the time a child is six years old he has already acquired fairly fixed habits of speech. Therefore the American child speaks English with an *American* accent, and the foreign child with a *foreign* accent. When finally our little foreigner begins to understand what is said in English, and to make himself understood in the language, he may still be using his foreign habits of articulation. The foreigner often learns to express himself in English and even to think in English long before he loses his foreign accent. Adults are likely to carry remnants of their native speech habits through life.

The foreign child, when he comes to school, speaks little or no English, and that with a foreign accent. Fortunate indeed is the child whose teacher has thorough phonetic training. She has, first of all, a keen ear, trained to hear the child's speech sounds; she confirms what she hears by what she knows about the phonetic nature of his native language. She knows, for instance, what sounds there are in his language that do not occur in standard English, and — which is far more significant — what English sounds are lacking in his language. These he must acquire as new sounds; for example, **th** as in ***this*** and ***thing*** are lacking in nearly all foreign languages. The foreigner must therefore learn to make the necessary adjustments of the speech organs for the utterance of the two sounds of *th*. Otherwise he will substitute for them native sounds, — those which to his ears most nearly resemble them. The story of the little German girl who asked for a "tin cake," meaning *cooky* ("thin cake"), illustrates this fact.

In the correction of errors of this kind the teacher with

phonetic knowledge is invaluable to the child who is learning to speak English. She knows precisely how he adjusts his organs of speech to give his sounds their foreign quality, and what readjustments must be made in order to give the sounds the acoustic effect of English. She not only knows how to correct faulty habits already formed, but, by foreseeing his difficulties, she prevents the formation of other faulty habits. How many times have such expressions as "Tank you," "I vant to go vit dem," or "Ma fadda gadda jobba" brought upon the child the taunt of "Hunky," "Dutchy," "Dago"!

A child is made most uncomfortable by having any peculiarity that marks him as different from his mates. This is especially true when there is anything unusual about his speech. The child who speaks English with a foreign tinge is often laughed at and taunted until he becomes ashamed of his foreign parentage. If he has been ridiculed or criticized for his speech, he dreads to open his mouth. The resulting unwillingness to speak, if continued for any length of time, develops into a habit of silence which is difficult to overcome. The temptation is to remain silent, and the longer the silence lasts the harder it is to speak. What wonder that the child inhibits the impulse to speak and often develops a complex of fear and inferiority!

Think what it would mean in the life of every child of foreign parentage if his teacher knew how to develop clear, distinct English speech as correct in *sound* as in *form*. He can be so taught that he comes to feel that English is his "mother tongue" and that his "mother's tongue" is the foreign language.

The child should be taught to speak English correctly without at the same time sacrificing the foreign language.

To be bilingual is a distinct advantage, and the learning of the foreign language should not be discouraged.

Teaching a foreigner to speak correct English is something more than teaching him how to pronounce individual words; it is helping him to acquire the English basis of articulation, or the phonetic basis. That is, he must learn how to use the muscles of his speech mechanism so as to produce English sounds in the English way; to use English habits of stress; to prolong or shorten syllables according to the English system; to let his voice rise and fall so as to give the English cadence. Even if the individual sounds in a sentence are correct, if the melody of the sentence as a whole is according to foreign intonation habits the speech will sound foreign.

There are certain English sounds with which foreigners of most nationalities have difficulty. Before taking up in detail the speech habits of the different nationalities let us study these sounds which are almost universally troublesome. But let us first consider the *phonetic basis* of English as spoken by Americans.

Phonetic Basis

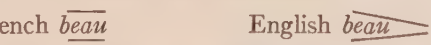
Americans use their lips less energetically than most Europeans do; in fact, many of us habitually "keep a stiff upper lip." Energetic lip action, however, adds no blemish to English speech; so this foreign-speech habit of energy can only be welcomed when it is used in English.

A very pronounced characteristic of English speech is the tendency to diphthongize vowels because of the instability of the tongue in vowel production; that is, when we utter a vowel, the tongue does not hold its position firmly to the

end of the vowel, but shifts its pressure, generally rising slightly and becoming more tense, though sometimes it relaxes and falls toward the neutral position. The lips also take part in this instability, as can be seen if you watch the lips of a speaker who is saying *know, day*. The more prolonged the vowel, the stronger is this tendency to diphthongize; in fact, there are speakers who habitually break up a long monosyllable into two, saying for *fowl* "fow-el," and for *fail* "fay-el."

When foreigners bring with them into the pronunciation of English their native tendency to hold the tongue steadily in the same position until the end of the vowel, their vowels will be "pure," keeping the same quality to the end, and will therefore sound unfinished, or "foreign," to our ears. Sometimes, in fact, we miss this diphthongal glide so much that the word becomes almost unrecognizable without it. The foreigner therefore needs to learn to diphthongize certain prolonged vowels.

The following simple diagram illustrates these differing habits in vowel formation, the pure vowel being represented by two parallel lines stopping abruptly, the diphthongized vowel by two converging lines showing a tapering down of the pressure, which diminishes gradually.



Again, in most foreign languages the vowel length does not vary within such wide limits as in English. The general tendency is for the foreigner to cut his vowel shorter than is usual with us. Since few of us are accustomed to listening for differences in vowel *length*, or *duration*, we very often confuse an unaccustomed vowel length with an incorrect vowel quality and think the wrong vowel has been used.

For example, there are languages in which the vowel in *ship* does not occur, although a vowel similar to that in *sheep* does occur. To a foreigner speaking such a language the words *sheep* and *ship* have a confusing similarity. Since the vowel in *sheep* occurs in his native tongue, he will use it in both words, *sheep* and *ship*. *Ship* will then be mispronounced, and this is a mispronunciation which the teacher easily interprets, since she is accustomed to discriminate between the two vowel qualities in *sheep* and *ship*.

But when he uses his native vowel in *sheep*, something still seems wrong. A comparison of the way in which the American and the foreigner say *sheep* will show that the American's vowel is slightly prolonged. The length of the vowel as the foreigner says *sheep* is approximately that of the American's vowel in *ship*. What wonder that the American teacher so often misinterprets the mistake! What she hears as an incorrect vowel is often only an unfamiliar shortening of the approximately correct vowel.

This explains a common complaint of teachers of foreigners: "Some of my pupils say *ship* for *sheep*, and *sheep* for *ship*!" As a matter of fact the pupils pronounced the two words alike, using approximately the vowel in *sheep* but without prolonging it as we do. The teacher, led astray by the shortened vowel in the foreigner's pronunciation of *sheep*, *thought* she heard *ship*. The pupil can easily learn to pronounce such words as *sheep* if he is shown that he must prolong his vowel.

Every nationality has also its own habits of placing stress. Since the foreigner tends to carry over into English his own stress habits, he is likely to bring the wrong syllable into prominence; thus his speech will have a strikingly foreign tinge even if the individual words are faultlessly articulated.

For instance, a Czech who is accustomed to giving the first syllable of a word the primary accent, throwing the secondary stress on the third syllable of a word of three or four syllables, or the fourth of a word of five syllables, will find himself inclined to do the same in English; so instead of *u''niver'sity* we hear him say *u'niversi''ty*.

We have seen that Americans have their own peculiar habits of using their organs of speech in the articulation of sounds, so that their sounds are more or less different from those of other nationalities, and that they have their own method of determining the length of sounds and of selecting the syllables to be stressed. There is one more peculiarity of speech that we have not yet noticed, and that is the way in which the voice rises and falls in the utterance of connected speech; and each language has its own habits in this respect also.

All these peculiarities of speech (characteristic habits of articulation, of prolonging and stressing different syllables, of letting the voice rise and fall) taken together make up what we call sentence melody. This sentence melody is what is hardest to get when learning a foreign language; and yet, unless it is acquired, the foreigner's speech will continue to sound noticeably un-English.

Troublesome Vowels

The vowels in *father*, *get*, *machine*, *soft*,[1] *truth*, are common to most languages, though there is considerable variation in the manner in which they are produced. The sounds, therefore, are not identical but only approximately alike.

[1] It is hard to find a key word for this vowel. It is the sound represented in Webster's International Dictionary by ŏ and in the New Standard Dictionary (Funk and Wagnalls) by ɵ. It is *not* the vowel in *calm*, nor that in *saw*.

Whenever a foreigner has to use a vowel which is lacking in his mother tongue, he will substitute for it the native sound which to his ear seems most similar to it. To his ear *sit* may sound identical with *seat*, for instance, and *foot* may rime with *boot*. In each of these cases a tense vowel has been substituted for a corresponding lax one, and the correction consists in relaxing the tongue and lips a bit, to enlarge the passageway between the lips and between the tongue and palate.

The use of the wrong vowel in such words as *sit* makes the foreigner's speech so conspicuously un-English that the defect deserves special attention.

If the correction cannot be secured by means of imitation, it is sometimes helpful to contrast the correct sound with the substituted one:

1. Sound the vowels in *seat* and *sit* alternately, close to the pupil's ear.

2. To aid the ear in detecting the difference between the two vowels repeat the exercise, asking the pupil to observe how your lips and tongue relax as you sound alternately the vowels in *seat* and *sit*.

3. Let the pupil feel the relaxation by placing his finger under your chin as you utter the vowels in *seat* and *sit* successively.

4. When the pupil is able to discriminate between the two sounds, let him form the sounds himself with the aid of the mirror. He should soon be able to form the vowel in *sit* independently of the vowel in *seat* and to use it in words.

The same procedure may be used for the foreigner who uses the vowel in *boot* for the vowel in *foot*.

The vowel in *pet* or in *father* may be substituted for that

in *pat*; the vowel in *father* may be substituted also for the vowels in *cup* and *all*; for the vowel in *word* a foreign sound is often used, or sometimes again the **a** in *father*, or a vowel resembling our vowel in *soft*. The vowels in *day* and *go* often give trouble because the foreigner uses a short, pure vowel instead of the prolonged diphthongal vowel generally heard in English.

Troublesome Consonants

Nearly all foreigners find the two sounds of English **th** difficult. Members of some nationalities habitually substitute for them **t** and **d**; others **s** and **z**. Children substitute also **f** and **v**. Remember that there are two factors to be observed in the utterance of **th**: the tongue position and the amount of obstruction which the tongue offers to the breath stream. The foreigner may put his tongue in the right place but may still produce an incorrect sound because he has blocked the breath passage completely, so that an explosive results instead of the continuant sound.

Another sound of universal difficulty is **wh**. This may be easily learned, if the foreigner possesses **w**, by sending the breath through the lips shaped for **w**. Some foreigners form **w** with lips spread instead of rounded. In some languages **w** is lacking, and **v** will be substituted for both **w** and **wh**. To such a foreigner both *while* and *wile* will be *vile*.

In many languages **ng** is lacking, or if present, it is always followed by **g** or **k**. The foreigner will then say *do-ink*, *com-ink*, or *hav-ink*. The foreigner who lacks **ng** may substitute **n** for it, and often, on being told by some well-meaning American friend that he is "leaving off his **g**," will painstakingly add **g**, giving *doin-g*, *havin-g*.

In Slavic languages **h** is voiced; in English it is voiceless. The *sound* **h** is entirely lacking in several languages, though the *letter* may be in the alphabet. A foreigner who has laboriously learned to use **h** often uses it also before English words which should begin with a vowel, saying *hair* and *air*, *ham* and *am*, alike.

English **l** and **r** very often give difficulty. The European **l** is made with the tongue convex in shape and the tongue tip touching the upper front teeth. For English **l** the tongue is concave in shape, and the contact with the tongue tip is made against the teeth ridge. English final **l**[1] is very noticeably different from the corresponding European sound.

English **r**,[2] as spoken in America, is untrilled and is formed by raising the sides of the tongue against the upper back teeth, while the tongue tip rises toward but does not touch the teeth ridge. European **r** is generally more or less trilled, either with the tongue tip against the teeth or with the uvula[3] vibrating in a little groove in the back of the tongue. Sometimes this "uvular" **r** is not trilled, but the sound is made by the breath scraping through the narrow channel between the back of the tongue and the velum.

Foreigners who use the uvular **r** should be careful not to raise the back of the tongue for English **r**. They should be shown how to form the sound from the tongue position of **a** (*father*) as a starting point.

Many foreigners find it difficult to close a syllable with a voiced consonant and will always wish to unvoice it, making **z** = **s**, **v** = **f**, **d** = **t**; others will feel that they must close the syllable with a vowel.

There are some sounds which occur in a given language only in certain positions, and the speakers of this language

[1] See page 93. [2] See pages 90–91. [3] See page 62.

will find it difficult to use such sounds in unfamiliar positions. For example, **ng** is familiar to us as a final but not as an initial; and whereas ***sing*** gives us no difficulty, we might find ***ngis*** difficult. Therefore, even if a foreigner is accustomed to using a sound similar to our **th** between vowels, if he is not accustomed to using it initially or finally he will have difficulty with ***this*** and *bathe*, though possibly not with *father*.

Following is a brief comparative study of the speech sounds of several foreign languages.[1] The sounds in each language are classified according to

1. General differences between English and the foreign language.

2. Sounds approximately alike in the two languages.

3. Sounds occurring in both languages but with different articulation and therefore with different acoustic effect.

4. Sounds peculiar to English, not found in the foreign language. Remember:

a. We are dealing with the *sounds* of the language, not with the *letters* of the alphabet. For instance, the statement that German contains no **w** means that the *sound* of *w* in the English word ***wet*** is not found in German. The letter *w*[2] in German stands for the same sound as English *v* in ***vine***. In like manner we may say that Italian contains no **h** sound. The *letter h* occurs but is always silent. The *letter j* is used in Swedish, but it stands for the sound of *y* in ***yet***.

[1] For the convenience of the teacher each language has been treated separately, so there has necessarily been much repetition.

[2] The South Germans have a **w** sound; but the lips are not rounded, as for the English **w**, and the German sound gives to our ears more the effect of **v** than of **w**.

b. This study of foreign speech sounds is for the *teacher's* information, *not* the *child's*. As the physician needs a broad background of knowledge and experience in order to treat physical ills, so the teacher of the child with foreign accent needs a background of knowledge of the characteristics of the child's native language in order to deal with his speech difficulties.

German

GENERAL DIFFERENCES BETWEEN GERMAN AND ENGLISH

In the pronunciation of German the lips and tongue are more active and energetic than for English. There is vigorous expulsion of breath and rather tense muscular action.

Final voiced consonants (except **l**, **r**, and the nasals) become voiceless: final **d** becomes **t**, final **b** becomes **p**, final **g** becomes **k** or, in some dialects, a German sound written *ch*; **z** becomes **s**. *Prize* will sound like *price*, *robe* like *rope*, *leave* like *leaf*. This is a very difficult habit to overcome; the dying away of the voice becomes automatic.

The consonants **t**, **d**, **n**, **l**, **r**, which in English are alveolar, — that is, articulated by the front edge of the tongue against the gums back of the teeth, — are in German more nearly dental; the contact is made farther forward than in English, near the upper front teeth. This affects also the accompanying vowel, giving it a clear sound.

Vowels in German are pure (that is, the tongue remains in the same position during the articulation of a given sound); in English they are often diphthongal (the tongue moves slightly while the vowel is being uttered). Notice the tongue and lip action in English in the pronunciation of *say*; compare the pronunciation of the German word *See.*

There is more distinction between short and long vowels in German than in English. A German vowel is usually either very long or very short. Notice the vowel *length* in the German's pronunciation of *father* or *bed*: he is likely to make the **a** in *father* too long, and the **e** in *bed* too short.

COMPARISON OF ENGLISH AND GERMAN SOUNDS

1. *Sounds approximately alike in English and German.*

a. Consonants in ***p**a*, ***b**e*, ***m**e*, ***k**ey*, ***g**o*, *sing*, ***f**oe*, ***v**ow*, ***s**o*, ***z**ero*, ***sh**e*, ***y**es*, ***h**e*.

b. Vowels in *f**a**ther*, *g**e**t*, ***i**t*, *m**a**chine*, *s**o**ft*,[1] *p**u**t*, *tr**u**th*, *sof**a***. Attention is again called to the fact that we are speaking of *sounds*, not *letters*. In German there is a letter *w* pronounced **v**. The letter *v* is usually pronounced **f**; the letter *z* is pronounced **ts**, etc.

2. *Sounds occurring in both English and German, but with different articulation.*

a. The sounds **t**, **d**, **n**, are formed in German with the blockage made slightly farther forward than is the case in English.

b. For German **l** the tongue is slightly convex in shape, and the tongue tip touches the back of the upper teeth; for English **l** the tongue is slightly concave, and the tongue tip touches the gums back of the teeth.

c. The South Germans use a weakly voiced variety of **b**, **d**, **g**, which sounds to our ears like **p**, **t**, **k**, respectively.

d. There are two varieties of **r** in German: **r** made by trilling the tongue tip against the upper front teeth

[1] See note 2, p. 155.

or the gum ridge; **r** made by trilling the uvula (the tip of the velum, or soft palate) against the back of the tongue, raised almost as for **g**. Sometimes this uvular **r** is not trilled, but the breath escapes between the raised back of the tongue and uvula with audible friction.

e. In some dialects of Germany final *ng* is pronounced like *nk*; *sing*, for example, sounds like *sink*.

f. The vowels **e** in *café* and **o** in *go* are pure vowels in German, while in English they have the tendency to become diphthongal, especially when prolonged.

3. *English sounds not occurring in German.*

a. Consonants in ***wh**y*, ***w**et*,[1] ***th**in*, ***th**is*. The consonant in *azure* occurs in a few words borrowed from the French (for example, *Journal*), but many Germans substitute for it the sound **sh** as in ***sh**e*. Likewise **ch** as in ***ch**in* is substituted for the consonant in *jay*.

b. Vowels in *c**a**t*, *c**u**p*, *h**e**r*, *l**a**w*.

Swedish

General differences between English and Swedish

Swedish sounds are formed with vigor and precision. The lips are slightly contracted at the corners; both upper and lower lips are used in shaping sounds. The tongue moves quickly and accurately. Consonants are distinct, sharp, and clean-cut; vowels are clear and pure, without diphthongization (as is the tendency in English).

Voiced consonants tend to become voiceless when final, — *bad* sounds like *bat*; *leave*, like *leaf*.

[1] See note 2, p. 125.

COMPARISON OF ENGLISH AND SWEDISH SOUNDS[1]

1. *Sounds approximately alike in Swedish and English.*

a. Consonants in ***p**a*, ***b**e*, ***m**e*, ***g**o*, ***k**ey*, ***f**oe*, ***v**ow*, ***s**o*, ***y**es*, ***s**ing*, ***h**e.*

b. Vowels in *f**a**ther*, *g**e**t*, *i**t***, *m**a**chine*, *s**o**ft*,[2] *tr**u**th.*

2. *Sounds occurring in both English and Swedish, but with different articulation.*

a. **t**, **d**, **n**, are formed with the tongue tip against the teeth instead of against the alveoli, as in English. The difference in formation is especially noticeable when **t** and **d** are final.

b. For English **l** the tongue is slightly concave and the tongue tip is applied to the teeth ridge; for Swedish **l** the tongue is convex and the contact with the tongue is made farther forward, against the back of the upper teeth.

c. There are two **r** sounds in Swedish: one made with a sharp trill, and one with a light trill, with one flap of the tongue against the teeth. English **r** is not trilled and is formed somewhat farther back in the mouth.

d. A sound somewhat similar to the **th** in *father* occurs only medially and finally, with the tongue not so far forward as for English **th**.

e. A blend of the consonants in *so* and *you* does duty for **sh**; of consonants in *to* and *you* for **ch**.

f. The vowels **e** in *café* and **o** in *go* are pure, while in English they have the tendency to become diphthongal, especially when prolonged.

[1] Other Scandinavian nationalities have approximately the same difficulties with English sounds as the Swedes.

[2] See note 2, p. 155.

3. *Sounds peculiar to English and not occurring in Swedish.*

a. Consonants in ***w**oe, **z**ero, a**z**ure, **J**ew, **wh**y, **th**in.*

b. Vowels in *c**a**t, **u**p, l**aw**, b**ir**d, sof**a**, p**u**t.*

Czecho-Slovak [1]

General Differences between English and Czecho-Slovak

The Czechs articulate with energy and precision. The corners of the mouth are tensely drawn together; the tongue movements are rapid and accurate.

The vowels are five in number: approximately those in *f**a**ther, g**e**t, m**a**chine, s**o**ft,*[2] *tr**u**th.* They are tenser than the corresponding English vowels and are pure; that is, the tongue remains in the same position throughout the utterance of the vowel, while English vowels tend to become diphthongal, especially when prolonged.

In Czech, stress is generally placed on the first syllable; if the word is long, there will be a secondary stress on the third or fourth syllable. The Czechs are likely to stress English words according to their own unvarying rule, often with strange effects. For instance, the word *university*, when spoken with Czech habits of stress, becomes u'niversi''ty. It happens occasionally that an entire word, through a misplaced accent, becomes unintelligible.

Final consonants, with the exception of **l**, **r**, **m**, **n**, are pronounced without voice. Thus, *be**d*** will sound like *be**t***; *ba**g***, like *ba**ck**.*

Other Slavic nationalities, such as Russians and Poles, experience approximately the same difficulties with English sounds as the Czechs.

[1] Or Bohemian. [2] See note 2, p. 155.

COMPARISON OF ENGLISH AND CZECH SOUNDS

1. *Sounds approximately alike in English and Czech.*

a. Consonants in ***be***, ***go***, ***me***, ***no***, *foe*, *vow*, ***so***, ***zero***, ***she***, *azure*, *yes*.

b. Vowels in *father*, *get*, *machine*, *soft*,[1] *truth*.

2. *Sounds occurring in both languages, but with different articulation and therefore with different acoustic effect.*

a. In Czech, initial **p**, **t**, **k**, are followed immediately after the explosion by the vowel, whereas in English the tendency is to follow the explosion by a slight aspiration. English ears often interpret Slavic **p**, **t**, **k**, as **b**, **d**, **g**, respectively.

b. For **t**, **d**, **n**, the blockage is made farther forward than for English, the tongue tip touching the back of the upper teeth.

c. Slavic **l** is made by placing the tip of the convex-shaped tongue against the upper front teeth; in English the tongue is concave in shape, and the contact is with the tongue tip and the teeth ridge. Slavic **r** is strongly trilled, with the tongue tip against the upper teeth.

d. In Czech **h** is voiced; in English it is voiceless.

e. The vowel **e** in *café* is pure in Czech, while in English it has the tendency to become diphthongal, especially when prolonged. The quality of **o** in Czech is more like that of the English vowel in *soft* than in *go*.

3. *English sounds not occurring in Czech.*

a. Consonants in *sing*, *why*, *wet*, *thin*, *this*.

b. Vowels in *cat*, *it*, *law*, *put*, *cup*, *her*, *sofa*.

[1] See note 2, p. 155.

French

GENERAL DIFFERENCES BETWEEN ENGLISH AND FRENCH

The formation of both vowels and consonants in French is very precise and accurate. Lips and tongue are active, with the result that consonants are sharper than in English, and vowels are pure, while English vowels tend to be diphthongal, especially when prolonged.

One marked difference between the two languages is in vowel length. While final vowels in English are prolonged, final vowels in French are very short. Compare *day*, *des*; *know*, *nos*; *too*, *tout*. The open vowels (for example, the vowel in *met*) in French may occur in final position, which is impossible in English. French vowels are in general more tensely articulated than English vowels.

Stress in French is very slight and is generally placed at the end of the word, phrase, or sentence. Sentence stress is not so closely connected with the meaning of the utterance as in English. Syllables in French succeed each other in almost unbroken rhythm, the tendency being to make syllables of equal length, hurrying over a longer syllable and dwelling on a shorter one. English phrases consist of long and short, stressed and unstressed, syllables, following each other so as to give the impression of contrast in light and shade.

COMPARISON OF ENGLISH AND FRENCH SOUNDS

1. *Sounds approximately alike in French and English.*

a. Consonants in *be*, *go*, *me*, *wet*, *foe*, *vow*, *so*, *zero*, *she*, *azure*, *yes*.

b. Vowels in *father*, *get*, *machine*, *soft*,[1] *truth*.

[1] See note 2, p. 155.

2. *Sounds occurring in both languages, but with different articulation and therefore with different acoustic effect.*

a. Initial **p**, **t**, **k**, are followed, immediately after the explosion, by the vowel, whereas in English the tendency is to follow the explosion by a slight aspiration. Initial French **p**, **t**, **k**, often make on English ears the impression of **b**, **d**, **g**.

b. For **t**, **d**, **n**, the blockage is made somewhat farther forward than for the English sounds.

c. For English **l** the tongue is slightly concave and the tongue tip is applied to the teeth ridge; for French **l** the tongue is convex, and the contact with the tongue is made farther forward, against the back of the upper teeth. The difference between the two kinds of **l** is more noticeable when **l** is final than in other positions.

d. French **r** is either a trill, made with the tip of the tongue against the upper front teeth, or a sound caused by the rubbing of the air as it passes through a narrow channel formed by raising the back of the tongue quite close to the uvula, the tip of the soft palate. Sometimes the uvula vibrates, causing a trill; sometimes the air squeezes through between the back of the tongue and the uvula without setting the uvula in vibration.

In attempting to acquire English **r** French people sometimes raise the tongue tip to the position for the English sound while keeping the back of the tongue raised as for the French sound. This results in a heavy, exaggerated **r**.

The vowels **e** in *café* and **o** in *go* are pure vowels in French and uttered with tenser tongue than the corresponding sounds in English, which tend also to become

diphthongal. The obscure vowel (*sofa*) is more tense in French than in English and is formed with slight lip rounding.

3. *English sounds not occurring in French.*

a. Consonants in ***th**in*, ***th**is*, ***wh**y*, ***h**e*, *sing*, ***ch**in*, *jay*.

b. Vowels in ***h**er*, ***c**up*, ***l**aw*, ***i**t*, ***c**at*, ***p**ut*.

For these sounds will be substituted those French sounds which to the speaker's ear seem most like them.

Spanish

General differences between English and Spanish

The Spaniard uses the lips and jaw more actively than the American. The lips are contracted at the corners, and the movements, though not vigorous, are exact. The co-ordinations of the different speech organs are accurately timed; the vibration of the vocal cords begins and ends simultaneously with the shaping of the resonating chamber by lips, jaw, tongue, and velum.

The tongue and lips in the formation of vowels are held firmly throughout the duration of the vowel, so that the vowel quality remains unchanged, while in English the unstable tongue and lips move, especially when the vowel is prolonged, and the vowel becomes diphthongal. Vowels are not prolonged, as English vowels often are; therefore the strange element in the pronunciation of an English word by a Spanish tongue is frequently not the color of a vowel but its length. Thus, the Spaniard may pronounce *feet* with the vowel so short that it sounds to us like *fit*, although really the correct vowel has been used, as we realize when he tries to pronounce *fit*, which sounds to our ears more like *feet*.

Vowel sounds are made with the tongue farther forward than for English. The dental sounds **t**, **d**, **n**, **l**, **r**, are formed actually against the teeth, not the teeth ridge, as in English.

There is not the contrast between stressed and unstressed syllables in Spanish as in English, and the stress falls almost always on either the last or the next to the last syllable. Also, sentence stress in Spanish is very slight.

Final consonants in Spanish are weak and sometimes disappear entirely (with the exception of **l**, **r**, **n**, **s**).

In Spanish, syllables usually end in vowels. It is often difficult, therefore, for the Spanish-speaking foreigner to close a word with a consonant. Certain initial blends are also difficult; for example, **st** and **sp**, which seldom occur initially in Spanish.

Although South American Spanish differs in some ways from the Spanish dialects of Spain, there is a general similarity in the mistakes made by natives of all Spanish-speaking countries.

COMPARISON OF ENGLISH AND SPANISH SOUNDS

1. *Sounds approximately alike in English and Spanish.*

a. Consonants in *pa*, *me*, *no*, *foe*, *so*, *chin*, *yes*.

b. Vowels in *father*, *get*, *machine*, *soft*,[1] *truth*.

2. *Sounds occurring in both English and Spanish but with different articulation.*

a. **b**, **d**, **g**, when initial, are similar to the corresponding English sounds. When medial and final there is a tendency to form so slight an obstruction that there is no actual explosion. The letter *b* then sounds like **v**; *d* resembles **th** in *this*; *g* (followed by **e** or **i**) resembles

[1] See note 2, p. 155.

the **ch** in German *ach*. We have in English no sound corresponding to this Spanish consonant.

b. Voiceless stops, **p**, **t**, **k**, are followed directly after the explosion by the vowel, without the slight aspiration, or **h** sound, as in English, so that the Spanish unvoiced sounds often sound voiced to our ears: *time* sounds like *dime*; *pet* like *bet*; *cot* like *got*.

c. The Spanish block up the mouth for **t**, **d**, **n**, by placing the edge of the tongue against the back of the upper teeth; in English the tongue is placed against the teeth ridge.

d. Consonant sounds similar to **th** in *thin* and *this* occur in Spanish, but they are much weaker than the corresponding English sounds and are never used initially; the Spanish will therefore have the tendency to substitute for the English **th** sounds their own **t**, **d**. South Americans lack the sound of **th** in *thin* entirely.

e. The consonant in *she* does not occur in Spanish alone but only in the combination **ch** (= **tsh**).

f. There are two **r** sounds in Spanish: one made with a sharp trill and one with a slight trill, with one flap of the tongue against the teeth. English **r** is not trilled, and is formed somewhat farther back in the mouth.

g. For English **l** the tongue is slightly concave and the tongue tip is applied to the teeth ridge; for Spanish **l** the tongue is convex, and the contact with the tongue is made farther forward, against the back of the upper teeth.

h. Spanish **ng** is usually followed by the sound of **g** or **k**, as in *anca*, *tengo*.

i. In Spanish, as in Italian, **w** is much weaker than

in English and is found blended with another consonant; for example, *guante, cuanto.*

j. The vowel **e** in *café* is pure, while in English it has the tendency to become diphthongal, especially when prolonged.

3. *Sounds peculiar to English and unfamiliar to Spanish.*

a. **wh** is likely to be voiced like **w**; ***while*** and ***wile*** will be pronounced alike.

b. Although **f**, which is the voiceless form of **v**, occurs in Spanish, the Spaniard usually has difficulty with **v**, substituting for it his own **b**, which is pronounced without definite pressure of the lips. Thus, ***very*** and ***berry*** will be pronounced alike, although neither **v** nor **b** will be like the corresponding English sounds. Remember that the Spanish *letters b* and *v* stand for the same sound, neither being exactly like English **b**, **v**, or **w**.

c. As **z** does not occur in Spanish, the Spaniard has a tendency to use **s** instead of **z**, its voiced mate; *prize* and *price, raise* and *race,* will be pronounced alike. Between two vowels there will be less tendency to substitute **s** for **z**.

d. Spanish contains a sound somewhat like **h** but made by narrowing the passage between the soft palate and the back of the tongue, in approximately the position for **k** but without pressure. In some dialects there is a sound very much resembling **h**, never used, however, when the spelling calls for *h,* but used when it calls for *ge, gi,* or *j.* The Spanish are likely to omit English **h** altogether. The consonant in *azure* does not occur in Spanish, nor does that in *jay.*

e. The vowels in *cat*, *it*, *law*, *go*, *put*, *cup*, *sofa*, and *her* do not occur in Spanish.

Italian

General differences between English and Italian

In Italian both consonants and vowels are formed with precision. Vowels are pure, while English vowels tend to become diphthongal. Vowels in Italian keep their original quality even though unstressed. Compare Italian and English sounds of final *a* in *Maria*.

There is not the marked difference between stressed and unstressed syllables in Italian that there is in English. The Italian often fails to hear an unstressed syllable in an English word, and omits it in his speech.

With the exception of **n**, **l**, **r**, consonants seldom occur finally in Italian; so the Italians have the tendency to add a vowel to the English final syllable, as in "tenna centa."

Stress in Italian usually occurs on the next to the last syllable, although there are exceptions to this rule.

Comparison of English and Italian sounds

1. *Sounds approximately alike in English and Italian.*

a. Consonants in *be*, *go*, *me*, *no*, *foe*, *vow*, *she*, *azure*, *yes*.

b. Vowels in *father*, *get*, *machine*, *soft*,[1] *truth*.

2. *Sounds occurring in both languages, but with different articulation and therefore with different acoustic effect.*

a. Initial **p**, **t**, **k**, are followed immediately after the explosion by the vowel, whereas in English the tendency is to follow the explosion by a slight aspiration.

[1] See note 2, p. 155.

Initial Italian **p**, **t**, and **k** often sound to English ears like **b**, **d**, and **g** respectively.

b. For **t**, **d**, **n**, the blockage is made farther forward than for the English sounds. This articulation is especially noticeable when final.

c. Italian **l** is made with convex tongue, and the contact of the tongue tip is with the upper teeth, not with the teeth ridge, as in English. Italian **r** is a sharp trill made by the contact of the tongue tip against the upper teeth.

d. The sound **ng** in Italian is always followed by **g** or **k** (as in *banca*, *lungo*) ; consequently the Italian finds it difficult to form the sound without the following explosive.

e. Initial **w** is used only in foreign words in Italian ; otherwise it is found after **k** and **g** (written *qu*, *gu*) ; for the Italian sound the lips are not rounded or so much narrowed as in English.

f. The vowels in *café* and *go* are not diphthongal in Italian, but are pure and generally quite short.

3. *English sounds not occurring in Italian.*

a. Consonants in ***why***, ***thin***, ***this***, ***he***.

b. Vowels in *c**a**t*, *i**t***, *l**aw***, *c**u**p*, *h**er***, *p**u**t*, *s**o**fa*.

Japanese

General differences between English and Japanese

Much of the difficulty which the Japanese has with English springs from his peculiar jaw structure : the projecting upper teeth interfere with the complete closure of the lips and have a tendency to render the horizontal movements of the tongue indefinite. Consonants in general, therefore,

are less distinctly sounded than in English, though vowels, which depend upon the vertical movements of the tongue, are more accurately formed than in English.

Japanese syllables consist of a single vowel or of one consonant followed by a vowel, so that no syllable ends in a consonant; and there are no consonant blends. Therefore final consonants as well as consonant combinations are apt to be difficult for the Japanese. The position of the tongue in forming the vowel influences the formation of the consonant preceding it, so that the consonant varies according to the following vowel. For example, **s** never occurs before **i** (*machine*); so that, although the syllable **sa** (**a** as in *father*) occurs, the syllable **si** (**i** as in *machine*) is impossible and is replaced by **shi**.

There are only five vowels in Japanese, while there are at least fourteen distinct vowels in English. These five Japanese vowels are uttered with very precise tongue movements, so that there is not the alteration of the sound to a diphthong, which so often occurs in English (especially when the vowel is prolonged, as in *day*, *see*, *low*, *too*). Four of these Japanese vowels have English equivalents, being approximately the vowels in *calm*, *mate*, *feet*, *soft*.[1] The fifth is sometimes classed as **u** (*truth*), but is made without lip rounding and with the tongue not so high or so far back as for the English sound.

In Japanese there is little definite stress and only slight variation in pitch in the utterance of the words in a phrase, whereas English syllables present a varying succession of light and shade due to constant changes both in stress and in pitch. Long vowels are apt to be shortened by the Japanese, and give to the English ear the impression of incompleteness.

[1] See note 2, p. 155.

COMPARISON OF ENGLISH AND JAPANESE SOUNDS

1. *Sounds approximately alike in English and Japanese.*

a. Consonants in ***pa***, ***be***, ***ma***, ***to***, ***do***, ***key***, ***go*** (initial).

b. Vowels in *father*, *get*, *machine*, *soft*.[1]

In forming stops the Japanese have a tendency to make loose contacts, so that no sharp explosion results; this is especially true of the lip sounds **p**, **b**, as it is difficult to bring the lips together over the projecting front teeth. The Japanese needs gymnastic exercises for the lips and tongue, and much practice in forming complete closures. He should also practice the sounds initially before all the vowels, for in his own language his sounds often change before certain vowels; **ti**, **di** (**i** as in *machine*), become **chi**, **dzi**; **tu**, **du**, become **tsu**, **dzu** (**u** as in *truth*).

2. *Sounds occurring in both English and Japanese, but with different articulation or used differently.*

a. The same tendency to make loose contacts which produces poor stops causes imperfect nasal consonants, **n**, **ng**. When the closure is incomplete, the result is apt to be an indistinct consonant preceded by a nasalized vowel, which to the ear often has the effect of a nasal vowel with the final consonant omitted.

b. Since tongue movements are not energetic, the sounds **s**, **z**, **sh**, and **z** in *azure* are not very sharp; in fact, the effect is often that of a slight lisp. Before **i** (*machine*) the tendency is to substitute **sh** for **s**. The sounds **ch**, **j**, also are not articulated sharply enough for English usage.

[1] See note 2, p. 155.

c. Unless **g** is initial, the Japanese tends to substitute **ng** for it; even when he sounds final **g**, he will precede it by **ng**.

d. Although **y** occurs in Japanese, it is never pronounced before **i** (*machine*), and such words as ***year***, ***yeast***, are very difficult for the Japanese tongue. The pupil will need special help in forming this habit. Show him that the difference between the initial sound in ***ear*** and ***year*** is mainly a matter of tongue pressure, as the tongue and lip positions are almost the same for the two sounds; but for **y** the tongue has been raised so high that friction results when the air forces its way through the narrowed channel between the tongue and the hard palate. Practice in distinguishing with the ear the words ***east*** and ***yeast***, ***ear*** and ***year***, will be useful. Careful attention to the teacher's lips, and observation of his own lip movements in the mirror, will help the Japanese to overcome this difficulty.

e. Like **y** the sound **w** occurs in Japanese in connection with some vowels but never with others. The Japanese finds it almost impossible to produce **w** in the words ***woman***, ***wood***, ***woo***, ***wool***. There is the same relation between **u** (*truth*) and **w** that there is between **i** (*machine*) and **y**. For both **u** (*truth*) and **w** the back of the tongue is raised toward the soft palate, and the lips are rounded; but for **w**, the consonant, the lips are so close together that weak friction ensues, while for **u**, the vowel, the raising of the tongue and the rounding of the lips are sufficient only to affect the shape of the oral cavity but not to obstruct the air as it emerges. Ear training, observation of the teacher's mouth, and observation of his own mouth through

the use of the mirror will aid the Japanese to form these unfamiliar syllables.

3. *Sounds peculiar to English and unfamiliar to Japanese.*

a. The Japanese lack the sound **wh**, which they are likely to voice; *wile* and *while* will be pronounced alike.

b. The projecting upper teeth make the sounds **f**, **v**, difficult. The Japanese sound corresponding to **f** is made by drawing the lips together instead of pressing the lower lip against the upper teeth, as in English. Sometimes **h** is substituted for **f**, and **b** for **v**. Combinations like the following should be practiced: *blue violets*; *very best*; *fine hair*. A mirror should be used. For the sounds of **th** as in *thin* and *this*, **t**, **d**, or **s**, **z**, are respectively substituted.

c. The Japanese have a sound which, with certain vowels, bears a resemblance to **l**, with others to **r**; but it is not exactly like either **r** or **l**. The tendency is to substitute for both **r** and **l** the Japanese sound, so that *river* and *liver*, *right* and *light*, sound alike, and both are unlike English.

Much opportunity for ear training should be given, especially by comparing pairs of words, — for example, *race*, *lace*; *rate*, *late*; *rip*, *lip*. Opportunity for practicing the blends should also be given, always based on the syllable containing the single consonant and vowel.

lee	flee	plea		rip	trip	drip	
low	flow	slow		row	fro	crow	
lie	fly	sly	ply	rye	fry	try	cry
lay	play	slay	clay	ray	fray	tray	

d. Vowels in *mat*, *met*, will be confused; *sat* will be confused with *set*, *bad* with *bed*, *man* with *men*.

Vowels in *cup*, *burn*, will be confused with each other, and also with other sounds: *burn* may be pronounced like *bun*, *born*, or *barn*; *bird*, like *bud*, *bard*, or *board*. The vowel in *sofa* is lacking.

For the vowels in *all*, *stone*, the pupil is likely to substitute the Japanese **o**, which is a pure open sound somewhat like the vowel in *soft*.

The pupil will substitute for the sounds **u** (*full*), **u** (*truth*), the Japanese equivalent for **u**, which, being made with different tongue and lip positions, has a different acoustic effect from the English sound.

Chinese

General differences between English and Chinese

Final stops are not exploded. The closure is made for the sound, but the pressure is not released, and to the American ear the sound seems to have been omitted. By holding the child's hand before her mouth the teacher can show him that he must open his mouth so as to emit a slight puff of breath. The Chinese child enjoys exploding **p**, **t**, **k**, with a feather held before his lips.

The voiceless stops, **p**, **t**, **k**, like the English sounds, are followed by a slight aspiration, or **h** sound. But there is in Chinese another variety of voiceless stops, like those in Italian and Spanish, in which the explosion is followed immediately by the voiced vowel; when initial, they sound to our ears like voiced stops, and they are used by the Chinese in place of **b**, **d**, **g**, respectively, the voiced variants of these sounds, which are lacking in Chinese. For instance,

if in pronouncing the word *time* the aspirated variety of t is used, we hear it as *time*; but if the unaspirated form is used, we interpret it as *dime*. Final **b**, **d**, become **p**, **t**, respectively. Final **g** becomes **ng**.

Final nasals are very weak and often entirely suppressed, and the accompanying vowels are nasalized. Though **ng** is less apt to be suppressed than **n**, it is very weak.

COMPARISON BETWEEN ENGLISH AND CHINESE SOUNDS

1. *Sounds common to both English and Chinese.*

a. Consonants in ***m**e*, ***n**o*, *si**ng***, *fo**e***, ***w**et*, ***y**es*, ***h**e*.

b. Vowels in *f**a**ther*, *m**e**t*, *i**t***, *m**a**chine*, *s**o**ft*,[1] *p**u**t*, *tr**u**th*, *c**u**p*.

2. *Sounds occurring in both English and Chinese, but with different articulation.*

a. Consonants in ***p**a*, ***t**o*, ***k**ey*; ***b**e*, ***d**o*, ***g**o*. Differences in the Chinese and English habits of forming these stops are discussed above. The Chinese are unaccustomed to final **g**; before it, or instead of it, they tend to insert **ng**, in Chinese a very common final sound. It is a mistake very difficult to correct; for the correction depends on keeping the nasal passages closed, and the pupil will not have conscious control of the soft palate. To form **g** the soft palate is raised against the walls of the throat; for **ng** the soft palate is lowered, letting the air escape into the nasal cavities. That is the main difference between the two sounds. Lowering the soft palate and omitting the explosion will turn **g** into **ng**; raising the soft palate and dropping the tongue changes **ng** to **g**. The Chinese must learn to raise the soft palate

[1] See note 2, p. 155.

for **g**. That will require careful ear training and repeated attempts to produce the sound through a long period of time.

b. The vowels **e** in *café* and **o** in *go* are pure vowels in Chinese, while in English they have the tendency to become diphthongal, especially when prolonged.

3. *Sounds peculiar to English and unfamiliar to Chinese.*

a. Consonants in ***why***, ***vow***, ***thin***, ***this***. Some dialects seem to possess **s** but not **sh**; others, **sh** but not **s**; still others, a sound bearing some resemblance to both **s** and **sh**, though not exactly like either. When **sh** is lacking in a Chinese pupil's speech, it is very difficult for him to acquire it. The teacher will have to ascertain which sounds each pupil needs help with; and ear training must usually go farther than any attempt merely to show the position of the organs. The consonants in *zero* and *azure* do not occur in Chinese.

The Chinese, like the Japanese, have a sound which has a certain resemblance to both **l** and **r**, though not exactly like either. But while the Japanese sound reminds us more of **r**, the Chinese sound seems more like **l**; and when the Chinese uses this sound instead of **r** in *right*, *race*, it seems to us as though he were saying *light*, *lace*. Many Chinese have great difficulty in forming English **l**.

b. Vowels. The Chinese have many vowels, and for most English vowels there is a fairly similar Chinese vowel. The vowel in *her*, *fur*, is lacking entirely, however, and will give some difficulty. Sometimes there is confusion between **a** in *mat* and **e** in *met*. The vowels in *law* and *sofa* are not found in Chinese.

CHAPTER VI

THE PHONETIC ALPHABET

In the teaching of reading, as with all other subjects, the teacher's knowledge and skill must be far in advance of her pupils. Among other things, there are certain facts about words which the teacher must know and the pupils need not know.

There are many words, such as *has*, *gave*, *seen*, *Betty*, *five*, *stone*, *toes*, *but*, in which the child may safely learn to associate particular sounds with particular letters; there are other words, such as *was*, *have*, *been*, *pretty*, *give*, *one*, *does*, *busy*, in which such association would only lead him astray. For the recognition of such words the pupil must depend upon the teacher.

The *child* may learn these words as wholes, without analysis, but the *teacher* should be able to analyze them into their constituent sound elements. She should be able to recognize *any* sound in a word, independently of its spelling. The teacher is handicapped, however, in her recognition of sounds, by the unphonetic spelling of English words. When you hear the two words ***shun*** and ***sun*** spoken, you perceive at once that the sounds of the initial consonants are different, because the letters (*sh*, *s*) are different; but when you hear the words ***sure*** and ***sun*** spoken, your memory of the spelling tends to obscure the fact that the letter *s* in ***sure*** does not stand for the same sound as the *s* in ***sun***. (It stands, in fact, for the **sh** in ***shun***.) This

accounts for the presence of such words as *sure* and *sugar* in lists of words containing s.[1]

The ambiguous nature of our English spelling dulls our perception of sounds. Since the English alphabet contains only twenty-six letters to represent about forty sounds, it is obvious that some letters must do double duty. And not only are there instances in which the same *letter* (or combination of letters) stands for more than one sound, but there are instances in which the same *sound* is represented by more than one letter (or combination of letters). For example, the *letter c* may have two values, as in *cat* and *city*; but the *sound* of *c* in *cat* is found also in *kite*, *thick*, *ache*, *quite*, *ox* (*ks*).

It is unfortunate that our spelling is so misleading, and that the English alphabet is inadequate for indicating pronunciation accurately. Different systems of respelling have been used for bringing the *written* word more closely into agreement with the *spoken* word. Most teachers are familiar with the diacritical marks in Webster's International Dictionary. But these diacritical marks are not adequate. The system is based on *letters* instead of *sounds*, and appeals to the *eye* rather than the *ear*, thus strengthening our visual perception, to the disadvantage of our auditory perception. Our power to recognize sounds and to discriminate between them grows through the possession of constant and definite symbols to represent them. The finer the tool, the nicer the discrimination. We need a phonetic alphabet, — one in which each symbol stands for one sound, and for one sound only, and in which each sound is represented by one symbol, and by one symbol only.

[1] Even *ship* and *shall* have been classified by teachers as s words, to say nothing of such words as *rose* and *does*, in which s has the sound of z.

A phonetic alphabet helps us to discriminate between sounds, because through its use we can express them accurately and unmistakably. It is hard to realize, when you see the words ***are*** and ***ate***, that the vowels are entirely unrelated sounds. But write [ar] and [et], and their difference is evident. This is the way the words *are* and *ate* are respelled according to the International Phonetic Alphabet.

The International Phonetic Alphabet was devised by a group of phoneticians from many countries. It is very generally adopted by students of language in all parts of the world and is coming more and more into use. Students of French in this country are already familiar with it.

With slight modifications the phonetic alphabet described in this chapter is that of the International Phonetic Association. The modifications are essentially those used in Krapp's "Pronunciation of Standard English in America."

Let us see how the phonetic alphabet differs from the conventional English alphabet. In the main [1] you will not find very much difference between the phonetic alphabet and the English alphabet as far as it goes. But there are a few points of variation.

A phonetic alphabet for English must contain at least *forty* symbols. Fifteen of these, *p*, *b*, *t*, *d*, *k*, *f*, *v*, *w*, *m*, *n*, *s*, *z*, *l*, *r*, and *h*, have the values which you are accustomed to assign to them, with the advantage that these values are *constant*. For instance, *d* never has the value of *t* as in *jumped*; *f* never has the value of *v* as in *of*; *s* never has the value of *z* as in *is* or of *sh* as in *sure*; *l* is never silent as in *calm*. We shall never need to consult the dictionary

[1] An international alphabet must make provision for non-English as well as for English sounds; consequently a few of the letters have European values.

to know whether *t* in *often* is to be pronounced or omitted. The phonetic spelling [ɔfn] will show this.

The letters *g* and *j* also occur in the phonetic alphabet; *g*, however, always has its value as in ***go***, never its value as in ***gem***. The letter *j* may give you a little difficulty. To this familiar symbol you must learn to give the sound that you are accustomed to attach to *y* in ***yet***.[1]

To the letters *a*, *e*, *i*, *o*, *u*, were assigned their Latin equivalents. On first thought this may seem a little difficult to English-speaking people, but the truth is that we have words in which the vowels have these values.

There is nothing unfamiliar or startling about the use of

[a] as in ***father, barn, calm***
[e] as in ***fête, crêpe, San José***
[i] as in ***machine, fatigue, police***
[o] as in ***bone, home, rode***
[u] as in ***truth, Ruth, rude***

Compare the conventional spelling of each of the following words with its phonetic respelling.

[a]		[e]		[i]		[o]	
palm	[pam]	fête	[fet]	police	[polis]	sew	[so]
barn	[barn]	spade	[sped]	tree	[tri]	home	[hom]
aunt	[ant]	eight	[et]	people	[pipl]	bowl	[bol]
heart	[hart]	break	[brek]	cream	[krim]	toad	[tod]
guard	[gard]	day	[de]	key	[ki]	foe	[fo]
ah	[a]	maid	[med]	grieve	[griv]	mould	[mold]

Notice the perfect uniformity of vowel symbols in each column of phonetic transcription; the total lack of uniformity in each column of conventional spelling.

[1] The letter *y* is reserved for a sound not found in English, — the vowel in German *für*, French *une*.

We have said that the English alphabet contains only twenty-six characters to stand for about forty sounds. It is evident that if we are to have a symbol for each sound, we shall have to introduce new characters.

Consonants

[ʃ] as in ***shoe*** and ***machine***; [ʒ] as in *azure*

Pronounce these words:

shoe	[ʃu]	mi**ss**ion	[mɪʃən]
shure	[ʃuɪ]	ma**ch**ine	[məʃin]
o**c**ean	[oʃən]	so**c**ial	[soʃəl]
na**t**ion	[neʃən]	con**sc**ience	[kɔnʃəns]

They all contain the same sound, but the spelling does not reveal it. Only in the word ***shoe*** do we find the accustomed symbol.

The conventional spelling *sh* may mislead us as to the nature of the sound. It sometimes gives the impression that we have here a blend of **s** + **h**. But *sh* in ***shoe*** stands for one *single* sound, as distinctive and indivisible as the **t** in *toe*.

To this elemental *sound* has been assigned the symbol [ʃ]. The symbol [ʃ] is a strange-looking character at first sight, to be sure. You have probably forgotten how queer *f* looked to you when you first made its acquaintance. But possibly you still remember wondering how *s* and *h* ever happened to be combined to represent the sound **sh** [ʃ].

The voiced sound which corresponds to [ʃ] (**z** in *azure*, **s** in *pleasure*) is represented by another unfamiliar character, [ʒ].

[ʃ] *voiceless*	[ʒ] *voiced*
show [ʃo]	rou**g**e [ruʒ]
sure [ʃuɪ]	lei**s**ure [liʒuɪ] [lɛʒuɪ]
shake [ʃek]	sei**z**ure [siʒuɪ]

The sound [ʒ] is borrowed from the French, and does not occur in many words. It is written with *g*, *s*, and *z*, as in *garage*, *vision*, and *azure* respectively.

[tʃ] as in *catch* and *chin*

Pronounce ***match***, ***catch***, ***latch***. Notice that *ch* in these words has the value of *ch* in *ma**ch**ine* [ʃ]. Therefore *tch* may be written [tʃ]. This is such a close blend that it may give the impression of *one* sound.[1] It will help you to analyze this sound if you compare the closing sounds of *ma—**t*** and *ma—**tch***. In both cases, after **ma**—, the tongue rises to the position of **t**; but after the explosion for **t** in *ma—**t*** the tongue drops into neutral position, whereas for *ma—**tch*** the tongue, as it drops for the explosion, draws back into the position for [ʃ].

[tʃ]

cheek [tʃik]	ri**ch** [rɪtʃ]
child [tʃaɪld]	di**tch** [dɪtʃ]

[dʒ] as in *bridge*

Pronounce ***bridge*** and ***fudge***. Notice that *g* in these words has the value that it has in *rouge* [ʒ]. Therefore we write *dg* (as in ***bridge***) [dʒ].

It may be difficult to realize that this is not a *single* sound, but a *blend*, — especially as it is sometimes written with a single letter, as in ***gem*** or ***Jew***. It is, in fact, such a very close blend that it is often considered a single sound.

To analyze this sound, compare *ba—**d*** and *ba—**dge***. In both cases, after **ba**—, the tongue rises to the position of **d**; but after the explosion for **d** in *ba—**d*** the tongue drops into neutral position, whereas for *ba—**dge*** the tongue, as it drops for the explosion, draws back into the position for [ʒ].

[1] Some students of phonetics consider it one sound.

ri**dg**e [rɪdʒ]	je**w**el [dʒuəl]
ju**dg**e [dʒʌdʒ]	**j**ay [dʒe]
gentle [dʒɛntl]	**J**ack [dʒæk]

[θ] as in *thin* and [ð] as in *that*

These *two* symbols, [θ] and [ð], for *th* satisfy a long-felt want. The conventional *th* is a most ambiguous character. In the first place, it stands not for a *blend* of **t** + **h**, but for *two single* sounds, **th** in *thin* (voiceless) or **th** in *that* (voiced). Surely there is nothing in the appearance of the words *thin* and *this* to indicate that *th* represents *two different* sounds. No rule, no matter how many exceptions we allowed, could be formulated to show the reader whether initial or final **th** is voiced or voiceless. But notice how unmistakably the phonetic symbols show this:

[θ] always stands for voiceless **th**;
[ð] always stands for voiced **th**.

[θ]	[ð]
thing [θɪŋ]	**th**ine [ðaɪn]
thought [θɔɪt]	**th**ough [ðo]
thumb [θʌm]	**th**us [ðʌs]
thistle [θɪsl]	**th**ither [ðɪðəɹ]
pi**th** [pɪθ]	wi**th** [wɪð]
no**th**ing [nʌθɪŋ]	mo**th**er [mʌðəɹ]

[ŋ] as in *sing*

The letters *ng*, as in *sing*, no more stand for the blend **n** + **g** than the letters *ph* in *philosophy* stand for the blend **p** + **h**. The letters *ng* in *sing* stand for a single sound, which differs from **n** only in the position of the tongue.

[ŋ]

ri**ng** [rɪŋ]	ha**ng** [hæŋ]
doi**ng** [duɪŋ]	lo**ng** [lɔŋ]
fi**ng**er [fɪŋgəɹ]	dri**nk** [drɪŋk]

[ʍ] as in ***white***

The letters *wh* more nearly express the real nature of the sound for which they stand than do the other digraphs, *sh*, *th*, and *ng*. **wh** is not really a blend of **w** + **h**. It is the voiceless sound of **w**. To be sure, as a practical expedient for speech correction, **wh** may be considered as formed by uttering **h** with the lips and tongue in position for **w**; but since **wh**, as in words like *white*, *when*, etc., represents a *single* sound, it should have its own symbol. [ʍ] [1] has been chosen as the phonetic symbol for the sound of *wh*.

[ʍ]

when [ʍɛn] **wh**ich [ʍɪtʃ] **wh**ile [ʍaɪl] **wh**oa [ʍo]

[ɹ] as in *are*

The symbol [ɹ] represents the sound of final *r*.

[ɹ]

are [ɑɹ] river [rɪvəɹ] hire [haɪɹ] father [fɑðəɹ]

Vowels

We have seen (p. 150) that the vowel letters, *a*, *e*, *i*, *o*, *u*, represent the primary vowel sounds as in *father*, *break*, *machine*, *boat*, *truth*. These take care of *five* of the *sixteen* English vowel sounds. How shall we represent the other *eleven*?

It is clear that we must either utilize symbols from other existing alphabets or devise new ones.

[ɪ] as in *bit*; [ʊ] as in *put*; [ɛ] as in *set*

Examine the above vowel symbols. After all, there is not so much divergence between the phonetic symbols and the corresponding letters in the English alphabet. Surely,

[1] Some writers feel that the symbol [hw] better represents this sound, which they consider not as the voiceless form of **w** but as a blend of **h** and **w**.

BIT offers no difficulty to the reader; nor do PUT and *set*; it is, then, an easy step from BIT to [bɪt]; from PUT to [pʊt]; and from *set* to [sɛt].

[ɪ]	[ʊ]	[ɛ]
in [ɪn]	**foot** [fʊt]	**bed** [bɛd]
sit [sɪt]	**could** [kʊd]	**bread** [brɛd]
busy [bɪzɪ]	**full** [fʊl]	**said** [sɛd]

[a] as in *ask, grass*; [æ] as in *cat, have*; [ɛː] as in *care, bear*

You will notice that the printed [a] has been assigned to the sound of the vowel which some people use in words like *path*. This sound is a compromise between **a** in *father*[1] and **a** in *cat*. The latter vowel sound is represented by [æ]. For the sound used by some speakers in *care, fair*, etc. the symbol [ɛː] is used.

[a]	[æ]	[ɛː]
last [last]	**rat** [ræt]	**pare** [pɛːɹ]
class [klas]	**sad** [sæd]	**pair** [pɛːɹ]
bath [ba*θ*]	**bag** [bæg]	**pear** [pɛːɹ]

[ɔ] as in *soft*[2]; [cː] as in *law*

The symbol [ɔ] is used to suggest the slight relationship between the vowels in *soft* and *so*.

[ɔ]	[ɔː]
off [ɔf]	**all** [ɔːl]
cross [krɔs]	**caught** [kɔːt]
lost [lɔst]	**saw** [sɔː]

[ʌ] as in *cup*

The use of [ʌ] for the vowel in *cup* reminds us of the fact that originally the letter *v* was a variation of the

[1] See page 103.

[2] On account of the varying usage it is difficult to get a satisfactory key word for the symbol [ɔ]. It is the sound used by some English and American speakers for *o* in *not, stop*; quite generally used in *loss, cloth, often, autumnal*.

letter *u*. Therefore an inverted *v* may well stand for the sound that we most frequently associate with the letter *u*, since this letter, as well as the letter *v*, has already been assigned to another sound.

[ʌ]

sun [sʌn]
son [sʌn]
does [dʌz]

[ə] as in *sofa*

The symbol [ə] is simply the letter *e* inverted.

[ə]

about [əbɑut]
Anna [ænə]
woman [wʊmən]

[ə] as in *her*

The character [ə], a modification of [ə], represents the sound of the vowel in *her* when **r** is pronounced.[1]

[ə]

word [wəɹd]	burn [bəɹn]	berth [bəɹθ]
earn [əɹn]	bird [bəɹd]	journey [dʒəɹnɪ]

Diphthongs

A diphthong is a combination of two vowels closely blended in one syllable. Therefore a diphthong must be represented by two vowel letters.

[aɪ] as in *aisle, kind*

Sound **a**[2] in *father*, then **i** in *it*, slowly at first, then with increasing speed until they blend. You will recognize at

[1] Many speakers undoubtedly use a single sound, a coalescence of [ə] and [ɹ] in such words as *her, word*.

[2] The first sound of the diphthong **ai** in *aisle* is really more like the vowel **a** which some speakers use in *last* than like the **a** in *father*.

once in this blend the diphthongal vowel occurring in *kind*, *aisle*. It is clear, therefore, that the spelling *ai* in *aisle* represents the diphthongal nature of the sound better than the letter *i* in *kind*. Sound *my*, *eye*, *lie*, *aye*, *height*, *buy*, *guide*, *high*, *mine*. All contain the diphthong [aɪ]; but notice the different spellings, all unphonetic.

[aɪ]

find	[faɪnd]	buy	[baɪ]
eye	[aɪ]	height	[haɪt]
by	[baɪ]	light	[laɪt]
die	[daɪ]	I	[aɪ]

[ju] as in *pure*, *few*

In like manner the fact that the vowel in *muse*, *pure*, *fury*, is a diphthong is obscured by the conventional spelling (with the *one* letter, *u*); its diphthongal nature is more apparent in words like *few*, *feud* (with the two letters, *ew* and *eu*).

[ju] [1]

dew	[dju]	music	[mjuzɪk]
Tuesday	[tjuzdɪ]	unit	[junɪt]
pupil	[pjupɪl]	few	[fju]

[aʊ] as in *out*, *cow*

If you sound the diphthong in *out* and *now* slowly, you will find that the phonetic symbol [aʊ] represents the sound more accurately than the conventional spelling *ou* or *ow*.

[aʊ]

now	[naʊ]	loud	[laʊd]
howl	[haʊl]	house	[haʊs]
bowed	[baʊd]	out	[aʊt]

[1] The symbols [iu] and [ɪu] are used instead of [ju] by many phoneticians.

[ɔɪ] as in ***oil, boy***

It is clear also that [ɔɪ] represents the components of the diphthong in *coin* and *boy* better than *oi* or *oy*.

[ɔɪ]

toy [tɔɪ]	**oil** [ɔɪl]
enjoy [ɛndʒɔɪ]	**coin** [kɔɪn]

Do not confuse *diphthongs* with *digraphs*. A digraph consists of *two letters* which stand for *one sound*, while a diphthong is a combination of *two sounds* closely blending into *one*. The letters *ai* in ***aisle*** represent a diphthong; *ai* in ***said*** (a digraph), the single sound [ɛ] in ***get***.

Diphthongs		*Digraphs*	
aisle	[aɪl]	**said**	[sɛd]
height	[haɪt]	**receive**	[rɪsiv]
by	[baɪ]	**says**	[sɛz]
lie	[laɪ]	**friend**	[frɛnd]
few	[fju]	**Jew**	[dʒu]
music	[mjuzɪk]	**fruit**	[frut]
out	[ɑʊt]	**ought**	[ɔɪt]
find	[faɪnd]	**heart**	[hɑɪt]
boys	[bɔɪz]	**does**	[dʌz]
boil	[bɔɪl]	**broad**	[brɔɪd]

Phonetic Alphabet

VOWELS

[ɑ] **father**	[ɪ] **it**	[ʊ] **put**
[a] **ask**	[i] **machine**	[u] **truth**
[æ] **cat**	[ɔ] **soft** [1]	[ə] **sofa**
[ɛ] **get**	[ɔɪ] **law**	[ə] **her** [2]
[ɛɪ] **there**	[o] **go**	[ʌ] **cup**
[e] **café**		

[1] As pronounced by some speakers. [2] When **r** is pronounced.

DIPHTHONGS

[aɪ] aisle	[ɔɪ] noise
[aʊ] house	[ju] pure

CONSONANTS

[p] pa	[ŋ] sing	[z] zero
[b] be	[ʍ] why	[ʃ] she
[t] to	[w] wet	[ʒ] azure
[d] do	[f] foe	[l] lie
[k] key	[v] vow	[r] rest
[g] go	[θ] thin	[ɹ] are
[m] me	[ð] this	[j] yes
[n] no	[s] so	[h] he
[tʃ] chin		[dʒ] joy

Advantages of the International Phonetic Alphabet

1. The purpose of any system of respelling must be to show the relationship between the spoken and the written word. Any printed page of English bears abundant testimony to the unphonetic character of our spelling. The inevitable result of this is a confusion of the *sound* with the *letter* representing it.

The International Phonetic Alphabet shows the true relationship between letters and sounds.

2. In a phonetic alphabet each written symbol must adequately represent the uttered sound without ambiguity or possibility of misinterpretation.

The International Phonetic Alphabet provides an exact means of writing a word as it is uttered.

3. The symbols that are used to represent speech sounds should not be misleading. To respell the words *mate* and *met*, *meet* and *mit*, as *māt* and *mĕt*, *mēt* and *mĭt*, tends to ob-

scure the true relationship between the sounds; whereas to write the same words as [met] and [mɛt], [mit] and [mɪt], brings out their true relationship.

The International Phonetic Alphabet shows the true relationship between sounds.

4. The symbols used to represent speech sounds should not confuse vowel *quality* with vowel *length*.[1] The vowel **e** in ***meet*** is not inherently long [prolonged], nor is the vowel in ***met*** inherently short. Compare the actual length of the vowel in ***meet*** with the vowel in ***men***. The real difference between these vowels is one not of prolongation but of quality, as is shown when the words are written [mit], [mɛn].

The International Phonetic Alphabet distinguishes between the length and quality of vowel sounds.

5. In learning the pronunciation of a foreign language a system of respelling is often found useful to indicate the sounds represented by the letters in that language. If the system of respelling used for English applies only to English, the student will need to learn a second system to aid him in his foreign language.

The International Phonetic Alphabet can be used satisfactorily for all languages.

Reading Lesson

This lesson was taken from "Learn to Study Reader," Book I, p. 30, and shows how the words would look if they were spelled as they are pronounced.

du ju no haʊ tʊ opn.ə nju bʊk?
fəɪst hold ɔɪl ðə pedʒɪz təgɛðəɪ

[1] See Webster's International Dictionary, phonetic introduction, § 74.

ðɛn le ðə bʊk ɔn ðə dɛsk so
ðæt boθ kʌvəɪz laɪ flæt. ðə pɪktʃʊɪ
ʃoz haʊ tʊ du ðɪs. nɛkst opn ə
fju pedʒɪz æt ðə frʌnt ænd prɛs
ðɛm daʊn əgɛnst ðə frʌnt kʌvəɪ.
jʊr titʃəɪ wɪl ʃo ju haʊ
tʊ prɛs ðə pedʒɪz daʊn. ɪt mʌst bi
dʌn dʒʌst raɪt.

ðɛn opn ə fju bæk pedʒɪz ænd
prɛs ðɛm daʊn əgɛnst ðə bæk
kʌvə˙. kip ðɪs ʌp ʌntɪl ɔ:l ðə
pedʒɪz hæv bɪn prɛst daʊn.
ɪt ɪz ə gʊd θɪŋ tʊ du ðɪs
sɛvərəl taɪmz wɪð itʃ nju bʊk.
sʌm tʃɪldrɛn aɪ nɔt kɛ:ɪful ɪn
opənɪŋ ðɛ:ɪ nju bʊks. ðe bɛnd
ðə kʌvəɪz bæk so faɪ ðæt ðə bæk
əv ðə bʊk ɪz brokn. ðɛn ðə
livz gɛt lus. sun ðe kʌm aʊt.

Think how much easier your task as a teacher would be if words were spelled as they are pronounced, and pronounced as they are spelled.

Think of the child. How much time and mental energy would be released for other work if there were this agreement between the *written* and the *spoken* word! Think of the discouragement and consequent loss of interest in school due to the pupil's struggles with reading and spelling. American children, on the whole, are noticeably impeded in their progress by the doubly difficult task of learning to *spell* and to *pronounce* words with the use of the present alphabet. Much time is spent in learning to read which might be spent more profitably in reading to learn.

CHAPTER VII

THE QUESTION OF PRONUNCIATION

I. Standards of Pronunciation

Pronunciation is largely the product of environment. Our speech reflects our environment as nothing else does. Is this perhaps the reason why we are so sensitive about our speech? We accept criticism of our house decorations, our clothing, even of our manners, calmly, often gratefully, but we are hurt by criticism of our speech. Our speech seems to be a peculiarly vulnerable spot; it is the Achilles heel of our personality. Unconsciously, perhaps, we interpret a criticism of our speech as a reflection on our early home life.

People of the same community do not think alike, believe alike, or act alike to the extent to which they speak alike; nor do they demand from each other common thought, common beliefs, common actions, to the extent to which they demand common speech. Innovations in clothing, in housing, and in many other living conditions are welcomed, but not innovations in speech.

Members of a small community have only praise and admiration for a young man who returns from a sojourn in a great city showing the influences of his new environment in his clothing, his bearing, his ability to meet people, his knowledge of affairs, and his general culture. If, however, along with these changes, he has allowed his speech to be influenced by his environment, he frequently meets with

disapproval, even resentment. It is as if he had shown himself disloyal to the ideals of his home town.

We have succeeded in standardizing our spelling of words; a word that is printed in Boston must be equally intelligible in Minnesota, Louisiana, or California; but any suggestion to standardize the way in which we *pronounce* our words, which would prevent a speaker from revealing by his speech the locality in which he was reared, is by many bitterly opposed.

A word is, first of all, something to be spoken and heard, writing and reading being secondary; and yet we are usually more careful about the written word than we are about the spoken word. We try to conform to conventional usage in writing; for we realize that a carelessly written manuscript, poorly punctuated and containing misspelled words, will expose us to unfavorable criticism.

We accept also certain conventions in dress and behavior. Few of us are willing to proclaim by our clothes or our manners that we are unfamiliar with the customs of society. Unsuitable clothes and uncouth manners always put their possessor at a disadvantage.

Just as we are judged by our outward appearance and by our written words, so we are judged by our speech. A pleasant, flexible voice, sufficiently loud, and clear, distinct utterance, without exaggeration or affectation, not only add greatly to the effectiveness of the speech but incline us favorably toward the speaker. A mispronounced word not only distracts attention from the thought the speaker is trying to express, but, like misspellings, affects the personal rating which we involuntarily give the speaker. A strong and interesting personality may be submerged beneath slovenly, incorrect speech.

We are especially prone to mispronounce English words because of their unphonetic spelling. Many words give no indication of what their pronunciation should be. Think of *bough, tough, cough, though, through, hiccough.* This unphonetic spelling would not be so serious if we always heard words pronounced correctly before we saw them written. But our reading vocabulary is much larger than our spoken one, and consequently we are all familiar with many words which our eyes have seen but which our ears have not heard. So we often guess at the pronunciation of words or imitate the guessing pronunciation of someone whom we have heard use them. Thus mispronunciations become current, and often it is difficult to decide what is right and what is wrong.

We have no *absolute* standard for English pronunciation. A pronunciation that is approved in one locality may seem provincial in another. Authorities also sometimes disagree. The advice often given, to follow local good usage, would therefore seem sound; but this advice should be followed with caution, for when speech habits are once established they are difficult to change, and the person who has adopted local peculiarities of speech may be embarrassed when he finds himself living in another locality where speech is less provincial.

Therefore it is well, whenever possible, to seek a happy medium, — to establish habits of speech in conformity with the standards which have been rather commonly adopted by careful speakers throughout the country. If you follow such standards, your speech will attract little attention wherever you may happen to be, while provincial peculiarities of speech are noticeable everywhere except in the limited locality where they are used. It is well worth

your effort, therefore, to try to rid your speech of local pronunciations or actual mispronunciations.

Listen carefully to the speech of persons of education and culture. Look up in the dictionary the pronunciation of words about which you are in doubt or which you have met only in books. Avoid, if possible, mispronouncing a word, lest you establish the habit of using it incorrectly. Habits of speech cling tenaciously. One cannot put them off and on as one can change one's clothes when they are no longer suitable.

When you have determined the correct pronunciation of a word, use this word several times in suitable sentences until your ears have become familiar with the correct sound and your tongue with the correct movements. Remember, you cannot train your tongue to speak correctly by simply informing yourself as to what is correct. The muscles of the speech mechanism, not the muscles of the eye, require exercise when speech habits are to be established; and the use of the word in a sentence is a more practical method of drill than the repetition of the isolated word, since we seldom use the word alone. This drill is especially important if you are accustomed to an incorrect pronunciation. When you wish to use a word in conversation, the correct pronunciation must be spontaneous; there is no time to search your memory for the preferred form.

But it is not sufficient that the teacher raise the standard of her own speech. If the level of speech in this country is to be raised, it must be done by improvement of the speech of the children in the schools. Good habits of speech, like other habits, are most successfully and economically formed in childhood. For the attainment of a high standard of speech, as for all other ideals, we must depend on the

teachers of the public schools. Not only must the teacher offer the child a good model of speech for imitation, but she must actively guide him and encourage him in his efforts toward speech improvement.

Real progress will not be made until the pupil himself realizes his own need for improvement. It is not enough that the teacher is aware of his errors and eager to correct them. Her first task is to make the child want to speak correctly. To develop in the child a speech conscience without making him self-conscious is a most delicate task.

It must be remembered that the child's own impulse toward right habits is by far the most vital factor in his improvement. Given sufficient motivation, together with knowledge of the right pronunciation and repeated opportunity for the use of the word in the child's daily speech, the habit can be fixed. The street, the playground, and for many children even the home will continue to influence pronunciation strongly in spite of all the teacher can do. But this is true of all ideals and standards that we strive to attain.

II. Which shall it Be?

There are many words whose pronunciation puzzles us. We hear one person say *adver'tisement*; another equally careful speaker says *advertise'ment*. One speaker rimes *creek* with *brick*; another, with *seek*. There are three current pronunciations of *data*. One of these must surely be incorrect, or at least one must be less desirable than the others.

The following word list is no theoretical "list of words frequently mispronounced." The words contained in it have actually been heard by students who have become interested in observing pronunciation.

The first column shows the word in conventional spelling; in the second column is given, in phonetic transcription, the pronunciation according to the Funk and Wagnalls New Standard Dictionary[1]; in the third column is given the pronunciation as indicated in Webster's New International Dictionary, with the Webster system of diacritical marks.

1. The first list contains words with variant pronunciation. In each case, however, only the pronunciation given first in the respective dictionaries has been reported here.

Words	*New Standard*	*New International*
1. humble	[hʌm′bl]	hŭm′b'l
2. humor	[hju′məɹ]	hū′mẽr

The foregoing words come from the French and were originally pronounced with initial *h* silent, but there is a growing tendency to sound it.

Words	*New Standard*	*New International*
3. apricot	[e′prɪkɔt]	ā′prĭ kŏt
4. isolate	[ɪ′solet]	ī′sō lāt
5. tremor	[tri′məɹ]	trē′mŏr
6. direct	[dɪrɛkt′]	dĭ′rĕkt′
7. civilization	[sɪv″ɪlɪze′ʃən]	sĭv′ĭ lĭ zā′shŭn
8. Americanization	[əmɛr″ɪkənɪze′ʃən]	*ȧ* mĕr″ĭ kăn ĭ zā′shŭn

In words like the last two the weak vowel [ɪ] is preferred to the diphthong [aɪ] in the unstressed syllable because it fits better into the rhythm of the word.

Words	*New Standard*	*New International*
9. often	[ɔːf′n]	ŏf″n
10. again	[əgɛn′]	*ȧ* gĕn′
11. neither	[ni′ðəɹ]	nē′thẽr
12. either	[i′ðəɹ]	ē′thẽr

[1] In the transcriptions the phonetic symbols which are described in Chapter VI of this book have been used, instead of the characters of the "Scientific Alphabet," of the New Standard Dictionary, which differs in some points from the International Phonetic Alphabet.

Words	*New Standard*	*New International*
13. profile	[pro′fil]	prō′fīl
14. oblique	[ɔblik′]	ŏb lēk′
15. vitamine	[vaɪ′təmɪn]	vī′tă mĭn
16. been	[bɪn]	bĭn
17. economics	[ɛkonɔm′ɪks]	ē kŏ nŏm′ĭks
18. usage	[juz′ɪdʒ]	ūz′ăj
19. sociology	[soʃɪɔl′odʒɪ]	sō shĭ ŏl′ŏ jĭ
20. pronunciation	[pronʌnsɪe′ʃən]	prŏ nŭn sĭ ā′shŭn
21. enunciation	[ɪnʌnsɪe′ʃən]	ē nŭn sĭ ā′shŭn
22. association	[æsosɪe′ʃən]	ă sō sĭ ā′shŭn

In words like the last three some people prefer **s** to [ʃ] because of the repetition of [ʃ], as in [æsoʃɪe′ʃən].

Words	*New Standard*	*New International*
23. horizon	[horaɪ′zən]	hŏ rī′zŭn
24. concentrate	[kɔn′sɛntret]	kŏn′sĕn trāt
25. advertisement	[ædvəɹ′tɪzmənt]	ăd vûr′tĭz mĕnt
26. abdomen	[æbdo′mɛn]	ăb dō′mĕn
27. illustrate	[ɪlʌs′tret]	ĭ lŭs′trāt
28. address	[ædrɛs′]	ă drĕs′
29. adult	[ədʌlt′]	ȧ dŭlt′
30. recess	[rɪsɛs′]	rē sĕs′
31. detail	[dɪtel′]	dē tāl′
32. detour	[dɪtuɹ′]	dē to͝or′
33. defect	[dɪfɛkt′]	dē fĕkt′
34. allies	[ælaɪz′]	ă līz′
35. research	[rɪsəɹtʃ′]	rē sûrch′

The last eight words are from the French and originally were stressed on the final syllable. There is now a growing tendency to shift the stress to the first syllable, although the dictionaries do not sanction it. Thus speakers who stress *address* on the first syllable when it is used as a noun and on the last syllable when it is used as a verb find no authority in the dictionaries for this usage.

2. A dialectic form of the words in the next group is often heard.

Words	*New Standard*	*New International*
36. root	[rut]	rō͝ot
37. roof	[ruf]	rō͝of
38. room	[rum]	rō͝om
39. spoon	[spun]	spō͝on
40. soon	[sun]	sō͝on
41. soot	[sʊt]	sō͝ot

The dictionary sanctions the use of the vowel [u], not [ʊ], in all the above words except *soot*. In one of the university classes a student, in an illustrative sentence, used the word *soot*, which she pronounced [sut]. As the instructor looked puzzled, she repeated the sentence and corrected her pronunciation, saying, this time, [sʊt]. The instructor still looked puzzled; then suddenly his face lighted up and he nodded, saying, "Oh, yes, [sʌt]."

Words	*New Standard*	*New International*
42. abroad	[əbrɔɪd′]	*a*̇ brôd′
43. daughter	[dɔɪ′təɪ]	dô′tẽr
44. taught	[tɔɪt]	tôt
45. caught	[kɔɪt]	kôt
46. sought	[sɔɪt]	sôt
47. thought	[θɔɪt]	thôt
48. water	[wɔɪ′təɪ]	wô′tẽr
49. wash	[wɔʃ]	wŏsh
50. watch	[wɔtʃ]	wŏch
51. lost	[lɔɪst]	lŏst
52. cloth	[klɔɪθ]	klŏth

In many localities [ɑ] is heard instead of [ɔɪ].

3. Of the pronunciations used for the words below, those given are considered correct, although other forms are often heard.

Words	*New Standard*	*New International*
53. era	[i′rə]	ē′ra̤
54. decade	[dɛk′ed]	dĕk′ād
55. tribunal	[traɪbju′nəl]	trī bū′nă̤l
56. precedence	[prɪsi′dɛns]	prẽ sē′dĕns

Words	*New Standard*	*New International*
57. forehead	[fɔr′ɛd]	fŏr′ĕd
58. sagacious	[səge′ʃəs]	sȧ gā′shŭs
59. sagacity	[səgæs′ɪtɪ]	sȧ găs′ĭ tĭ
60. culinary	[kju′lɪnerɪ]	kū′lĭ nă rĭ
61. decorous	[dɪko′rʌs]	dē̆ kō′rŭs
62. bouquet	[buke′]	bo͞o kā′
63. decadence	[dɪke′dɛns]	dē̆ kā′dĕns
64. hospitable	[hɔs′pɪtəbl]	hŏs′pĭ tȧ b′l
65. biography	[baɪɔg′rəfɪ]	bī ŏg′rȧ fĭ
66. creek	[krik]	krēk
67. acclimate	[æklaɪ′mɪt]	ă klī′măt
68. absurd	[æbsəɹd′]	ăb sûrd′
69. absorb	[æbsɔːɹb′]	ăb sôrb′
70. inherent	[ɪnhir′ɛnt]	ĭn hēr′ĕnt
71. Beelzebub	[bɪɛl′zɪbʌb]	bē̆ ĕl′zē̆ bŭb
72. strata	[stre′tə]	strā′tȧ
73. Russian	[rʌʃ′ən]	rŭsh′ăn
74. dishevel	[dɪʃɛv′ɛl]	dĭ shĕv′ĕl
75. taciturn	[tæs′ɪtəɹn]	tăs′ĭ tûrn
76. vagaries	[vəge′rɪz]	vȧ gā′rĭz
77. harass	[hær′əs]	hăr′ăs
78. inquiry	[ɪnkwaɪ′rɪ]	ĭn kwī′rĭ
79. traverse	[træv′əɹs]	trăv′ĕrs
80. exquisite	[ɛks′kwɪzɪt]	ĕks′kwĭ zĭt
81. vehement	[vi′hɪmɛnt]	vē′hē̆ mĕnt
82. gondola	[gɔn′dolə]	gŏn′dō lȧ
83. manor	[mæn′əɹ]	măn′ĕr
84. moron	[mo′rɔn]	mō′rŏn
85. silhouette	[sɪluɛt′]	sĭl o͞o ĕt′
86. chiropractic	[kaɪropræk′tɪk]	kī″rō prăk′tĭk
87. lamentable	[læm′ɛntəbl]	lăm′ĕn tȧ b′l
88. dahlia	[del′jə]	däl′yȧ
89. chaperon	[ʃæp′əron]	shăp′ē̆r ōn
90. margarin[1]	[mɑr′gərɪn]	mär′gȧ rĭn

[1] Also spelled *margarine*; then [mɑr′gərin] is the preferred pronunciation.

4. The words in the following lists are very frequently mispronounced. Sometimes the *vowel* is incorrect; sometimes it is the *consonant* which is wrong. Sometimes the stress is misplaced; in that case there is often also a change in the vowel.

Words	*New Standard*	*New International*
91. get	[gɛt]	gĕt
92. can	[kæn]	kăn
93. gather	[gæð′əɪ]	găth′ĕr
94. just	[dʒʌst]	jŭst
95. again	[əgɛn′]	*a* gĕn′
96. sense	[sɛns]	sĕns
97. instead	[ɪnstɛd′]	ĭn stĕd′
98. catch	[kætʃ]	kăch
99. wrestling	[rɛs′lɪŋ]	rĕs′lĭŋ
100. such	[sʌtʃ]	sŭch
101. since	[sɪns]	sĭns
102. six	[sɪks]	sĭks
103. rinse	[rɪns]	rĭns
104. poor	[pur]	po͞or
105. deaf	[dɛf]	dĕf
106. been	[bɪn]	bĭn
107. pretty	[prɪt′ɪ]	prĭt′ĭ
108. measure	[mɛʒ′ʊɪ]	mĕzh′ŭr
109. milk	[mɪlk]	mĭlk
110. men	[mɛn]	mĕn
111. any	[ɛn′ɪ]	ĕn′ĭ
112. because	[bɪkɔɪz′]	bē kôz′
113. fish	[fɪʃ]	fĭsh
114. wish	[wɪʃ]	wĭsh
115. dish	[dɪʃ]	dĭsh
116. piano	[pɪæn′o]	pĭ ăn′ō
117. Italian	[ɪtæl′jən]	i tăl′y*ă*n
118. suite	[swit]	swēt
119. column	[kɔlʌm]	kŏl′*ŭ*m

Words	*New Standard*	*New International*
120. heroine	[hɛr′oɪn]	hĕr′ō ĭn
121. sirup	[sɪr′ʌp]	sĭr′ŭp
122. prowess	[praʊ′ɛs]	prou′ĕs
123. cupola	[kju′polə]	kū′pō lȧ
124. peony	[pi′onɪ]	pē′ō nĭ
125. sincerity	[sɪnsɛr′ɪtɪ]	sĭn sĕr′ĭ tĭ
126. accept	[æksɛpt′]	ăk sĕpt′
127. length	[lɛŋθ]	lĕngth
128. strength	[strɛŋθ]	strĕngth
129. depth	[dɛpθ]	dĕpth
130. with	[wɪð]	wĭth
131. gesture	[dʒɛs′tjuɹ]	jĕs′t‿ūr
132. escape	[ɛskep′]	ĕs kāp′
133. chimney	[tʃɪm′nɪ]	chĭm′nĭ
134. handkerchief	[hæŋ′kəɹtʃɪf]	hăŋ′kĕr chĭf
135. February	[fɛb′ruerɪ]	fĕb′rōō ȧ rĭ
136. something	[sʌm′θɪŋ]	sŭm′thĭng
137. seven	[sɛv′n]	sĕv″n
138. eleven	[ɪlɛv′n]	ĕ lĕv″n
139. diphthong	[dɪf′θɔŋ]	dĭf′thŏng
140. pincers	[pɪn′səɹz]	pĭn′sẽrz
141. fifth	[fɪfθ]	fĭfth
142. etiquette	[ɛt′ɪkɛt]	ĕt′ĭ kĕt
143. tremendous	[trɪmɛn′dʌs]	trĕ mĕn′dŭs

5. The following words are from the French. If you attempt to give them the French pronunciation, be careful not to change the final [ʒ] into [dʒ]. Some speakers, however, prefer to Anglicize such words.

Words	*New Standard*	*New International*
144. garage	[gɑ″rɑʒ′]	gȧ räzh′
145. mirage	[mirɑʒ′]	mĕ räzh′
146. camouflage	[kɑ″muflɑʒ′]	kȧ″mōō fläzh′
147. rouge	[ruʒ]	rōōzh

6. According to the prevailing usage in America **wh** in words like ***which*** and ***where*** is uttered without vibration of the vocal cords. Many careful British speakers, however, pronounce ***which*** as ***witch*** and ***where*** as ***wear***, etc. This usage is followed by many Americans also. It is very easy to learn **wh** by rounding the lips as for **w** and blowing a slip of paper lightly from the mouth.

Words	*New Standard*	*New International*
148. **when**	[ʍɛn]	hwĕn
149. **which**	[ʍɪtʃ]	hwĭch
150. **while**	[ʍaɪl]	hwīl
151. **whether**	[ʍɛð′əɹ]	hwĕthĕr
152. **wheel**	[ʍil]	hwēl
153. **wharf**	[ʍɔːɹf]	hwôrf

7. The words in the next group excite much controversy. Some speakers are so careful not to use the sound [tʃ] (= ch) in these words that they separate the syllables incorrectly. The syllable **ture** should be kept intact.

Words	*New Standard*	*New International*
154. **picture**	[pɪk′tʃʊɹ]	pĭk′t͡ŭr
155. **nature**	[ne′tʃʊɹ]	nā′t͡ŭr
156. **literature**	[lɪt′ərətʃʊɹ]	lĭt′ĕr *ă* t͡ŭr
157. **gesture**	[dʒɛs′tʃʊɹ]	jĕs′t͡ŭr
158. **feature**	[fi′tʃʊɹ]	fē′t͡ŭr
159. **ritual**	[rɪt′ʃʊəl]	rĭt′t͡ŭ*ă*l

WATCH FOR CONSONANTS ADDED, INSERTED, OR TRANSPOSED

Words	*New Standard*	*New International*
160. **drown**	[draʊn]	droun
161. **drowned**	[draʊnd]	dround
162. **gown**	[gaʊn]	goun
163. **attacked**	[ætækt′]	*ă* tăkt′

Words	*New Standard*	*New International*
164. only	[on'lɪ]	ōn'lĭ
165. twice	[twaɪs]	twīs
166. once	[wʌns]	wŭns
167. across	[əkrɔɪs']	*a* krŏs'
168. height	[haɪt]	hīt
169. nowhere	[no'ʍɛɪɹ]	nō'hwâr
170. somewhere	[sʌm'ʍɛɪɹ]	sŭm'hwâr
171. pretty	[prɪt'ɪ]	prĭt'ĭ
172. hundred	[hʌn'drɛd]	hŭn'drĕd
173. children	[tʃɪl'drɛn]	chĭl'drĕn
174. brethren	[brɛð'rɛn]	brĕth'rĕn
175. introduce	[ɪntrodjus']	ĭn trō dūs'
176. prescription	[prɪskrɪp'ʃən]	prē scrĭp'shŭn
177. perspiration	[pəɹ''spɪre'ʃən]	pûr''spĭ rā'shŭn
178. pronunciation	[pronʌn''sɪe'ʃən]	prō nŭn''sĭ ā'shŭn
179. irony	[aɪronɪ]	ī'rō nĭ
180. tragedian	[trədʒidɪən]	tr*à* jē'dĭ *ăn*
181. larynx	[lærɪŋks]	lăr'ĭŋks
182. pharynx	[færɪŋks]	făr'ĭŋks
183. Des Moines	[demɔɪn]	dē moin

WATCH FOR MISPLACED STRESS

Words	*New Standard*	*New International*
184. theater	[θi'ətəɹ]	thē'*à* tĕr
185. superfluous	[sjʊpər'flʊʌs]	sū pûr'flo͞o *ŭs*
186. mischievous	[mɪs'tʃɪvʌs]	mĭs'chĭ v*ŭs*
187. evidently	[ɛv'ɪdɛntlɪ]	ĕv'ĭ dĕnt lĭ
188. municipal	[mjunɪs'ɪpəl]	mū nĭs'ĭ p*ăl*
189. admirable	[æd'mɪrəbl]	ad'mĭ r*à* b'l
190. illustration	[ɪlʌstre'ʃən]	ĭl *ŭs* trā'shŭn
191. cerebrum	[sɛr'ɪbrʌm]	sĕr'ē brŭm
192. desultory	[dɛs'ʌltorɪ]	dĕs'*ŭl* tō rĭ
193. infamous	[ɪn'fəmʌs]	ĭn'f*à* m*ŭs*
194. interesting	[ɪn'tərɛstɪŋ]	ĭn'tĕr ĕst ĭng

Words	*New Standard*	*New International*
195. **pedestal**	[pɛd′ɛstəl]	pĕd′ĕs tăl
196. **alias**	[e′lɪəs]	ā′lĭ ăs
197. **alienate**	[el′jənet]	āl′yĕ nāt
198. **initiative**	[ɪnɪʃ′ɪətɪv]	ĭn ĭsh′ĭ ā tĭv
199. **pergola**	[pəɹ′golə]	pûr′gō lȧ
200. **decorative**	[dɛk′oretɪv]	dĕk′ ō rā tĭv
201. **inventory**	[ɪn′vɛntorɪ]	ĭn′vĕn tō rĭ

III. Distinct Utterance

In Chapter IV we saw that each speech sound is the result of five different adjustments, made simultaneously and in coördination with each other. If any one of these adjustments is imperfectly made or occurs too soon or too late, the sound will be imperfect. For the correction of faulty speech, then, we need to know just what adjustments should be made in the different organs of speech to produce any desired sound clearly and distinctly. For this reason we shall review briefly some of the facts in Chapter IV (The Sounds of English).

In the speech mechanism the breath stream furnishes the motor power for speech, the vocal cords by their vibration produce voice, and the cavities of the mouth and nose act as resonators to reënforce and modify the sounds. Some of the boundaries of the mouth cavity are fixed, — the hard palate, the gums, the upper jaw, the teeth in the jaws; but others are adjustable, — the lips, the lower jaw, the tongue, the soft palate, the vocal cords. Through the movement of these various speech organs the resonating chamber of the speech mechanism is continually changing in size and shape.

The *vocal cords* may vibrate or not, producing either *voiced* sounds (**v**, **z**, **n**) or *voiceless* sounds (**f**, **s**, **h**).

The *velum*, or *soft palate*, may rise, shutting off the nasal chamber, or drop, opening the nasal cavity, producing *nasal* sounds (**n**, **m**, **ng**).

The *tongue* may obstruct the passage of the air through the mouth, as for consonants, or may merely modify the shape of the mouth cavity, as for vowels. It may be concave, convex, or flat; it may be extended or retracted, raised or lowered.

The *lower jaw* may drop or rise, increasing or diminishing the angle of opening of the jaws and bringing the teeth closer together or separating them.

The *lips* may be closed or more or less opened, and may change in shape from a round aperture to a wide slit.

Through the action of these adjustable organs, acting upon each other or upon the fixed organs, the resonating chamber is continually changing in size or shape. Sometimes the breath stream is entirely obstructed, as in the case of **p**, in which the lips are momentarily closed; sometimes there is only partial obstruction, as in the case of **v**, in which the air forces its way in a continuous stream between upper teeth and lower lip. In the formation of *vowels* there is no obstruction, but the shape of the mouth cavity is modified, mainly by the action of the teeth and lips.

WATCH YOUR FINAL CONSONANTS

Stops, or Plosives

Most Americans habitually use more breath force in starting a syllable than in ending it. The result is that the final consonant may become very weak and often vanishes entirely. This is especially true of the stops, or plosives, **t**, **d**, **p**, **b**, **k**, **g**.

These sounds are made by blocking the mouth completely, then suddenly releasing the blockage, letting the air escape with an explosive puff. For **p**, **b**, the stoppage is made with the lips; for **t**, **d**, with the front edge of the tongue against the teeth ridge; for **k**, **g**, with the back of the tongue against the soft palate.

There are three steps in the utterance of a stop. The omission or slighting of any one of these steps results in an incorrect or indistinct sound.

1. There must be a *complete* closure.
2. There must be a *sudden* opening.
3. There must be an *explosive* escape of the breath.

A clear, distinct explosion requires effort. When a plosive is preceded or followed by another plosive, even more effort is required to utter it distinctly. As a consequence we are likely, in the utterance of a word like *kept*, to explode the **p** and neglect the **t**.

On the other hand, the attempt to utter both consonants distinctly may lead to a separate explosion of each consonant. This is also to be avoided. To produce a distinct yet pleasing utterance of the plosive in a word like *kept*, linger just long enough on the **p** to give time to begin the tongue adjustment for **t**, and the **p** will explode unobtrusively into the **t**.

When you have three consonants, as in *asked* [askt], don't think you need to hurry over them. In *asked*, for example, take time enough for the utterance of **s**, so as to get ready for the following **kt**. Think of **s** as a springboard on which you gather poise for the following **kt**.

When the final explosive is followed by an unstressed syllable, as in *directly* and *correctly*, don't stop between **t** and **l**, but explode the **t** into the **l**.

Words	*New Standard*	*New International*
202. right	[raɪt]	rīt
203. kept	[kɛpt]	kĕpt
204. wept	[wɛpt]	wĕpt
205. slept	[slɛpt]	slĕpt
206. swept	[swɛpt]	swĕpt
207. crept	[krɛpt]	krĕpt
208. respect	[rɪspɛkt′]	rē spĕkt′
209. district	[dɪs′trɪkt]	dĭs′trĭkt
210. retrospect	[rɛt′rospɛkt]	rĕt′rŏ spĕkt
211. exact	[ɛgzækt′]	ĕg zăkt′
212. exactly	[ɛgzækt′lɪ]	ĕg zăkt′lĭ
213. direct	[dɪrɛkt′]	dĭ rĕkt′
214. directly	[dɪrɛkt′lɪ]	dĭ rĕkt′lĭ
215. correct	[kɔrɛkt′]	kŏ rĕkt′
216. correctly	[kɔrɛkt′lɪ]	kŏ rĕkt′lĭ
217. strict	[strɪkt]	strĭkt
218. strictly	[strɪkt′lɪ]	strĭkt′lĭ
219. defects	[dɪfɛkts′]	dē fĕkts′
220. selects	[sɪlɛkts′]	sē lĕkts′
221. facts	[fækts]	făkts
222. thinks	[θɪŋks]	thĭŋks
223. thanks	[θæŋks]	thăŋks
224. desks	[dɛsks]	dĕsks
225. risks	[rɪsks]	rĭsks
226. next	[nɛkst]	nĕkst
227. first	[fəɪst]	fûrst
228. rests	[rɛsts]	rĕsts
229. lost	[lɔɪst]	lŏst
230. tastes	[tests]	tāsts
231. hosts	[hosts]	hōsts
232. resists	[rɪzɪsts′]	rē zĭsts′
233. wrists	[rɪsts]	rĭsts
234. costs	[kɔsts]	kŏsts
235. forests	[fɔr′ɛsts]	fŏr′ĕsts
236. artists	[ɑɪ′tɪsts]	är′tĭsts

Words	*New Standard*	*New International*
237. guests	[gɛsts]	gĕsts
238. last	[last]	lȧst
239. test	[tɛst]	tĕst
240. posts	[posts]	pōsts
241. east	[ist]	ēst
242. results	[rɪzʌlts′]	rē zŭlts′
243. west	[wɛst]	wĕst
244. went	[wɛnt]	wĕnt
245. president	[prɛz′ɪdɛnt]	prĕz′ĭ dĕnt
246. and	[ænd]	ănd
247. hand	[hænd]	hănd
248. understand	[ʌndəɹstænd′]	ŭn dĕr stănd′
249. thousand	[θaʊ′zənd]	thou′zănd
250. round	[raʊnd]	round
251. found	[faʊnd]	found
252. sounds	[saʊndz]	soundz
253. second	[sɛk′ənd]	sĕk′ŭnd
254. almonds	[ɑ′mən dz]	ä′mŭndz
255. tends	[tɛndz]	tĕndz
256. called	[kɔɪld]	kôld
257. old	[old]	ōld
258. holds	[holdz]	hōldz
259. bold	[bold]	bōld
260. child	[tʃaɪld]	chīld
261. field	[fild]	fēld

Nasal Consonants

Nasal consonants as well as plosives are often weakened or omitted. In forming the nasals **m**, **n**, and **ng** [ŋ] the mouth is completely blocked in the same way as for **b**, **d**, **g**, respectively; but the soft palate, which in the production of the plosives is raised to shut off the nasal passage, is lowered, and the passage into the nose is opened. In the for-

mation of nasal consonants, therefore, the air is not released through the mouth with a sudden explosion, but issues evenly through the nose. If the blocking is not perfect, a part of the air stream issues through the mouth. The result is a weakened or omitted nasal consonant and a nasalized vowel. Words like *pan*, *hen*, *some*, for example, are pronounced [pæ̃], [hɛ̃], [sʌ̃]. When reading the words in the following list, be sure to form the nasal consonant accurately.

Words	*New Standard*	*New International*
262. man	[mæn]	măn
263. can	[kæn]	kăn
264. ran	[ræn]	răn
265. ten	[tɛn]	tĕn
266. men	[mɛn]	mĕn
267. pen	[pɛn]	pĕn
268. am	[æm]	ăm
269. ham	[hæm]	hăm
270. lamb	[læm]	lăm
271. thumb	[θʌm]	thŭm
272. chum	[tʃʌm]	chŭm
273. climb	[klaɪm]	klīm
274. sang	[sæŋ]	săng
275. rang	[ræŋ]	răng
276. hung	[hʌŋ]	hŭng

Fricatives

In forming consonants like **z**, **v**, **l**, while there is no complete blockage of the air passage, there is enough obstruction of the breath to cause audible friction. These consonants too are often weakened so as to become inaudible. Take time to form the adjustments for each sound. Especially in words like *months*, where there is a succession of consonants, linger slightly on the first of the series.

Words	*New Standard*	*New International*
277. yes	[jɛs]	yĕs
278. five	[faɪv]	fīv
279. gives	[gɪvz]	gĭvz
280. twelfth	[twɛlfθ]	twĕlfth
281. widths	[wɪdθs]	wĭdths
282. depths	[dɛpθs]	dĕpths
283. sixth	[sɪksθ]	sĭksth
284. fifths	[fɪfθs]	fĭfths
285. mouths	[maʊðz]	mouthz
286. months	[mʌnθs]	mŭnths

WATCH YOUR MIDDLE CONSONANTS

The same lack of precision as in the utterance of our final consonants shows itself also in our middle consonants. Sometimes a consonant is slurred; sometimes it is omitted altogether.

In the words in the following list we find consonants, even entire syllables, dropping out altogether.

Words	*New Standard*	*New International*
287. understand	[ʌndəɹstænd′]	ŭn dĕr stănd′
288. laboratory	[læb′ɔrətoɹɪ]	lăb′ō rȧ tō rĭ
289. library	[laɪ′brerɪ]	lī′brā rĭ
290. arctic	[ɑɹk′tɪk]	ärk′tĭk
291. particular	[pɑɹtɪk′juləɹ]	pär tĭk′ū lȧr
292. gentleman	[dʒɛn′tlmən]	jĕn′t′l măn
293. all right	[ɔːl raɪt]	ôl rīt′
294. advantage	[ædvan′tɪdʒ]	ăd vän′tăj
295. government	[gʌv′əɹnmɛnt]	gŭv′ĕrn mĕnt
296. exception	[ɛksɛp′ʃən]	ĕk sĕp′shŭn
297. didn't	[dɪd′nt]	dĭd′n't
298. couldn't	[kʊd′nt]	k o͝o͝d′n't
299. soldier	[sol′dʒəɹ]	sōl′jĕr
300. adjective	[ædʒ′ɛktɪv]	ăj′ĕk tĭv
301. interpretation	[ɪntəɹ″prɪte′ʃən]	ĭn tûr″prĕ tā′shŭn

Words	*New Standard*	*New International*
302. recognize	[rɛk′ɔgnaɪz]	rĕk′ŏg nīz
303. yesterday	[jɛs′təɹdɪ]	yĕs′tẽr dā
304. twenty	[twɛn′tɪ]	twĕn′tĭ

Voiceless Consonant becomes Voiced

A voiceless consonant coming between two vowels is very often slurred. This tendency is especially noticeable in the utterance of **t**, which, when it occurs between two voiced vowels, becomes itself voiced; **t** then sounds like **d**.

Words	*New Standard*	*New International*
305. water	[wɔɪ′təɹ]	wô′tẽr
306. letter	[lɛt′əɹ]	lĕt′ẽr
307. butter	[bʌt′əɹ]	bŭt′ẽr
308. Saturday	[sæt′əɹdɪ]	săt′ẽr dā
309. get along	[gɛt əlɔŋ]	gĕt *à* lŏng′
310. winter	[wɪn′təɹ]	wĭn′tẽr
311. intimately	[ɪn′tɪmɪtlɪ]	ĭn′tĭ māt lĭ
312. satisfy	[sæt′ɪsfaɪ]	săt′ĭs fī
313. notable	[no′təbl]	nō′*tà* b'l
314. utterly	[ʌt′əɹlɪ]	ŭt′ẽr lĭ
315. kettle	[kɛt′l]	kĕt′'l
316. little	[lɪt′l]	lĭt′'l
317. united	[jʊnaɪ′tɛd]	ū nī′tĕd

The next list contains a few typical examples of words which are uttered with almost universal carelessness. You will note that the error consists in substituting **n** for **ng**, not in "leaving off the **g**," as is often wrongly stated; that is, the carelessness results not in a sound *omission* but in the blocking of the mouth with the front of the tongue against the gums instead of making the blockage with the back of the tongue against the soft palate, which is the correct adjustment for **ng** [ŋ].

Words	*New Standard*	*New International*
318. wanting	[wɔɪnt′ɪŋ]	wônt′ĭng
319. having	[hæv′ɪŋ]	hăv′ĭng
320. doing	[du′ɪŋ]	dōō′ĭng
321. seeing	[si′ɪŋ]	sē′ĭng
322. coming	[kʌɪn′ɪŋ]	kŭm′ĭng
323. going	[go′ɪŋ]	gō′ĭng
324. being	[bi′ɪŋ]	bē′ĭng
325. morning	[mɔɹn′ɪŋ]	môrn′ĭng

WATCH THE UNSTRESSED SYLLABLE

Vowels in unstressed syllables have the tendency to lose their vivid quality and become obscure, fading into the neutral vowel of **a** in *sofa* or the weak **i** in *habit*. Others retain their vowel quality but should not be given the value of a stressed syllable.

Sometimes the vowel in an unstressed syllable is omitted entirely. The word is then "telescoped," the consonants being absorbed into the preceding or following syllables, and the number of syllables is reduced, as in *evening* [ivnɪŋ]. In some words this dropping of the syllable is sanctioned by good usage, as in *evening*, in others, as in *celery*, it is not advised. In the following list, notice in every case what quality the unstressed vowel has.

Words	*New Standard*	*New International*
326. minutè	[mɪn′ɪt]	mĭn′ĭt
327. village	[vɪl′ɪdʒ]	vĭl′åj
328. spinach	[spɪn′ɪdʒ]	spĭn′åj
329. finish	[fɪn′ɪʃ]	fĭn′ĭsh
330. spirit	[spɪr′ɪt]	spĭr′ĭt
331. civilization	[sɪvɪlɪze′ʃən]	sĭv ĭ lĭ zā′shŭn
332. ceremony	[sɛr′ɪmonɪ]	sĕr′ē mō nĭ
333. manufacture	[mænjufæk′tʃuɪ]	măn ū făk′tūr

Words	*New Standard*	*New International*
334. July	[dʒulaɪ′]	jŭ lī′
335. singular	[sɪŋ′gʊlə‡]	siŋ′gŭ l*ȧ*r
336. schedule	[skɛd′ʒʊl]	skĕd′ŭl
337. patriot	[pe′trɪət]	pā′trĭ *ŏ*t
338. stomach	[stʌm′ək]	stŭm′*ŭ*k
339. heroine	[hɛr′oɪn]	hĕr′ō ĭn
340. genuine	[dʒɛn′jʊɪn]	jĕn′ū ĭn
341. potato	[pote′to]	pō tā′tō
342. yellow	[jɛl′o]	yĕl′ō
343. fellow	[fɛl′o]	fĕl′ō
344. window	[wɪn′do]	wĭn′dō
345. pillow	[pɪl′o]	pĭl′ō
346. piano	[pɪæn′o]	pĭ ăn′ō
347. Ohio	[ohaɪ′o]	ō*h*ī′ō
348. believe	[bɪliv′]	bē lēv′
349. before	[bɪfoɪ′]	bē fōr′
350. behind	[bɪhaɪnd′]	bē hīnd′
351. between	[bɪtwin′]	bē twēn′
352. beginning	[bɪgɪn′ɪŋ]	bē gĭn′ĭng
353. department	[dɪpɑɪt′mɛnt]	dē pärt′mĕnt
354. event	[ɪvɛnt′]	ē vĕnt′
355. immigrant	[ɪm′ɪgrənt]	ĭm′ĭ gr*ă*nt
356. extra	[ɛk′strə]	ĕk′str*ȧ*

WATCH FOR OMISSION OF SYLLABLES

Words	*New Standard*	*New International*
357. because	[bɪkɔɪz′]	bē kôz′
358. imagine	[ɪmædʒ′ɪn]	ĭ măj′ĭn
359. surprise	[sʌɹpraɪz′]	s*ŭ*r prīz′
360. suppress	[sʌprɛs′]	s*ŭ* prĕs′
361. establish	[ɛstæb′lɪʃ]	ĕs tăb′lĭsh
362. perhaps	[pəɹhæps′]	per hăps′
363. correct	[kɔrɛkt′]	k*ŏ* rĕkt′
364. coöperation	[koɔpəre′ʃən]	kō ŏp ĕr ā′sh*ŭ*n
365. suppose	[sʌpoz′]	s*ŭ* pōz′

Words	*New Standard*	*New International*
366. another	[ænʌð′əɹ]	*ă* nŭth′ẽr
367. finally	[faɪ′nəlɪ]	fī′n*ă* lĭ
368. realize	[rɪ′əlaɪz]	rē′*ă*l īz
369. poem	[po′ɛm]	pō′ĕm
370. heresy	[hɛr′ɪsɪ]	hĕr′ẽ sĭ
371. prohibition	[prohɪbɪʃ′ən]	prō hĭ bĭsh′*ŭ*n
372. different	[dɪf′ərɛnt]	dĭf′ẽr *ĕ*nt
373. usually	[ju′ʒuəlɪ]	ū′zhŭ *ă*l ĭ
374. similar	[sɪm′ɪləɹ]	sĭm′ĭ l*ă*r
375. real	[rɪ′əl]	rē′*ă*l
376. really	[rɪ′əlɪ]	rē′*ă*l ĭ
377. opera	[ɔp′ərə]	ŏp′ẽr *ă*
378. ruined	[ru′ɪnd]	rōō′ĭnd
379. comfortably	[kʌm′fəɹtəblɪ]	kŭm′fẽr t*ă* blĭ
380. mirror	[mɪr′əɹ]	mĭr′ẽr
381. foreign	[fɔr′ɪn]	fŏr′ĭn
382. for instance	[fɔɪr ɪn′stəns]	fôr ĭn′st*ă*ns

Following is a partial list of books helpful to the student of pronunciation:

Dictionaries

American

New Standard Dictionary
Webster's New International Dictionary
Century Dictionary

British

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KEY TO PHONETIC ALPHABET

For purposes of ready reference the phonetic key which appears on pages 158–159 is reprinted here

[ɑ]	father	[d]	do
[a]	ask	[k]	key
[æ]	cat	[g]	go
[ɛ]	get	[m]	me
[ɛː]	there	[n]	no
[e]	café	[ŋ]	sing
[ɪ]	it	[ʍ]	why
[i]	machine	[w]	wet
[ɔ]	cloth	[f]	foe
[ɔː]	law	[v]	vow
[o]	go	[θ]	thin
[ʊ]	put	[ð]	this
[u]	truth	[s]	so
[ə]	sofa	[z]	zero
[ə]	her	[ʃ]	she
[ʌ]	cup	[ʒ]	azure
[aɪ]	aisle	[l]	lie
[ɑʊ]	house	[r]	rest
[ɔɪ]	noise	[ɹ]	are
[ju]	pure	[j]	yes
[p]	pa	[h]	he
[b]	be	[tʃ]	chin
[t]	to	[dʒ]	joy

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